Florida State University Libraries

Electronic Theses, Treatises and Dissertations The Graduate School

2013

Classification of Juvenile Sexual Offenders by Victim Age Based Subgroups

Catherine Hardee Drew

Follow this and additional works at the FSU Digital Library. For more information, please contact lib-ir@fsu.edu

THE FLORIDA STATE UNIVERSITY

COLLEGE OF ARTS AND SCIENCES

CLASSIFICATION OF JUVENILE SEXUAL OFFENDERS BY VICTIM AGE BASED SUBGROUPS

By

CATHERINE HARDEE DREW

A Dissertation submitted to the
Department of Psychology
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

Degree Awarded:
Summer Semester, 2013

Catherine Hardee Drew defended this Dissertation on May 28, 2013.

The members of the supervisory committee were:

Janet Kistner

Professor Directing Dissertation

Daniel Mears
University Representative

Jesse Cougle

Committee Member

Michael Kaschak

Committee Member

Jeanette Taylor

Committee Member

The Graduate School has verified and approved the above-named committee members, and certifies that the dissertation has been approved in accordance with university requirements.

TABLE OF CONTENTS

List of Tables v
List of Figures vi
Abstract vii

1. INTRODUCTION 1

    1.1 Classifying Adult Sexual Offenders by Victim Age 2
    1.2 Classifying JSOs by Victim Age 4
        1.2.1 Victim Age Based Subgroups and Sexual Recidivism Risk 6
        1.2.2 Victim Age Based Subgroups and Sexual Abuse History 9
        1.2.3 Victim Age Based Subgroups and Non-Sexual Criminality 10
    1.3 Present Study 12

2. METHOD 15

    2.1 Participants 15
    2.2 Measures 16
        2.2.1 Number of Adjudications 16
        2.2.2 Age of First Referral 16
        2.2.3 Prior Commitments to Juvenile Justice Facilities 17
        2.2.4 Youth's History of Being Sexually Abused 17
        2.2.5 Total Victims 18
        2.2.6 Measures of Recidivism 18
    2.3 Procedures 19
    2.4 Data Analytic Approach 20
        2.4.1 Descriptive Analyses 20
        2.4.2 Testing Hypotheses 20
            2.4.2.1 Sexual Abuse History 20
            2.4.2.2 Non-Sexual Criminal History 21
            2.4.2.3 Recidivism 21

3. RESULTS 23

    3.1 Preliminary Analyses 23
        3.1.1 Non-Sexual Criminal History 23
        3.1.2 Sexual Criminal History 24
    3.2 Testing Hypotheses 25
        3.2.1 Sexual Abuse History 25
        3.2.2 Non-Sexual Criminal History 26
        3.2.3 Descriptive Recidivism 27
        3.2.4 Sexual Recidivism 27
        3.2.5 Non-Sexual Recidivism 28

4. DISCUSSION 31

    4.1 Limitations and Future Directions 34
    4.2 Conclusions 35

APPENDICES 39

A. TABLES……39

B. FIGURES……..48

C. NON-SEXUAL OFFENSE CODE WITH 5 OR MORE RE-OFFENSE OCCURANCES.50

D. EXPLORATORY ANALYSES 51

E. SURVIVAL CURVES 53

REFERENCES 54

BIOGRAPHICAL SKETCH 58

LIST OF TABLES

1. Bivariate Correlations for Variables 39
2. Means and Standard Deviations for Severity of Criminality by Subgroups 40
3. Means and Standard Deviations for Sexual Offense Details by Subgroups 40
4. Means and Standard Deviations for JSOs with Multiple Adjudications 41
5. Rates of Recidivism by Subgroups 42
6. Means and Standard Deviations for Recidivism Details by Subgroup 43
7. Cox Regression for Sexual Recidivism – JSOs Compared to Delinquent 44
8. Cox Regression for Sexual Recidivism - Subgroups Compared to Delinquent 44
9. Cox Regression for Sexual Recidivism - Subgroups Compared to Child 44
10. Cox Regression for Sexual Recidivism - Subgroups Compared to Peer 45
11. Cox Regression for Sexual Recidivism - Subgroups Compared to Mixed 45
12. Cox Regression for Non-Sexual Recidivism – JSOs Compared to Delinquent 45
13. Cox Regression for Non-Sexual Recidivism - Subgroups Compared to Delinquent 46
14. Cox Regression for Non-Sexual Recidivism - Subgroups Compared to Child 46
15. Cox Regression for Non-Sexual Recidivism - Subgroups Compared to Peer 47
16. Cox Regression for Non-Sexual Recidivism - Subgroups Compared to Mixed 47

LIST OF FIGURES

1. Rate of Sexual Abuse History by Subgroup 48

2. Number of Non-Sexual Criminal History Adjudications by Subgroups 48

3. Rate of Sexual Recidivism by Subgroup 49

4. Rate of Non-Sexual Recidivism by Subgroup 49

5. Recidivism Survival Curve 53

6. Sexual Recidivism Survival Curve 53

ABSTRACT

The aim of the present study was to examine the validity of classifying juvenile sexual offenders (JSO) by victim age based subgroups. JSOs were categorized into one of three subgroups (those who only offend against children, those who only offend against peers, and those who offend against children and peers). The child, peer, and mixed subgroups were compared to non-sexual delinquent offenders on sexual recidivism, non-sexual recidivism, sexual abuse history, and non-sexual criminal history. Institutional files of juveniles remanded to a high-security Department of Juvenile Justice facility, as well as recidivism information from Florida's Computerized Criminal History (CCH) database served as the data source for this study. Results revealed that the victim age classification method utilized in the present study significantly predicted sexual recidivism, history of sexual abuse, non-sexual recidivism, and non-sexual criminal history. Secondly, those who offended against children (i.e., child and mixed offenders) had significantly higher rates of sexual abuse history and sexual recidivism than those who did not (i.e., peer offenders and delinquent offenders). Also, child and mixed offenders had lower rates of non-sexual recidivism and non-sexual criminal history than peer and delinquent offenders. Although the mixed offender subgroup was not significantly higher than the other subgroups, there was a trend for them to have a more extensive criminal history and be at higher risk for sexual and non-sexual recidivism than other JSOs. Implications for classification, treatment, and recidivism prediction of juvenile offenders are discussed.

CHAPTER ONE

INTRODUCTION

Over the past decade juveniles who commit sexual offenses have received increasing societal attention and resources. This increase is largely due to the mounting evidence regarding the frequency of sexual offenses committed by juveniles. The Office of Juvenile Justice and Delinquency Prevention (OJJDP) reported that juvenile sexual offenders (JSO) account for more than one quarter of all sexual offenders, and one third of all reported offenses against minors (Finkelhor, et al., 2009). In addition, the implications for the victims and the risk for future crime act as incentives to better understand juvenile sexual offending. For these reasons, many resources are allocated to the specialized treatment and post-release monitoring of JSOs (Seto & Lalumiere, 2010; Finkelhor, et al., 2009). Despite the increase in funding and research devoted to JSOs, little is known about best practices for treating juvenile sex offenders and reducing risk for recidivism (Kemper & Oneal, 2011). Thus, it may be helpful to identify subgroups within this population that differ in terms of causes, response to treatment, and risk for recidivism.

Identifying meaningful subgroups is critical because JSOs have consistently been found to have significant within group differences on a wide variety of measures, including: sexual recidivism, sexual abuse history, criminality, and victim characteristics (for review see DiCataldo, 2009). Without valid subgroups, researchers are limited in their ability to identify factors that are related to the development and maintenance of sexual offending as well as recidivism risk (Seto & Lalumiere, 2010; Finkelhor, et al., 2009; Knight et al., 2009; Gunby & Woodhams, 2009; Fortune & Lambie, 2006; Lee et al., 2003).

One approach commonly used in the adult sexual offending literature is classifying based on victim characteristics, specifically victim age. Due to its relative success within the adult

sexual offending literature (Mann et al., 2010; Jespersen, 2009; Whitaker, 2008), some researchers have attempted to extend this approach to juvenile offenders, but the results have been mixed (Kemper & O'Neal, 2011). The aim of the current study is to examine the validity of classifying JSOs based on victim age. Specifically, the study will investigate how well these subgroups differentiate JSOs on sexual recidivism, sexual abuse history, and non-sexual criminality. Before reviewing the literature on classifying JSOs by victim age, it is helpful to review the findings in the adult sexual offending literature.

1.1. Classifying Adult Sexual Offenders by Victim Age

Adult sexual offenders have consistently been found to be a heterogeneous group (Mann et al., 2010; Rich, 2009; Worling and Landstrom, 2006), yet through victim age classification, researchers have uncovered a pattern of results that support child sexual offenders[†] being significantly different from other sexual offenders in the etiology and maintenance of sexual offending behaviors as well as recidivism risk. These findings have led researchers, practitioners, and policy makers to suggest specialized treatment and post-release monitoring for those who offend children versus adults (for a review see Prentky et al., 2011; USDJS, 2008). In sum, there is a general consensus among those who work with adult sexual offenders that sexual offenders who victimize children are likely different from other sexual offenders in a variety of ways including sexual recidivism risk, sexual abuse history, and non-sexual criminality.

Several meta-analyses and large studies have contributed to the knowledge of how child offenders differ from other sexual offenders. First, meta analytic findings suggest that child offenders are at higher risk for sexual recidivism (Mann et al., 2010; Hanson et al., 2005; Hanson

[†] The term 'child sexual offender' rather than 'pedophile' is used throughout this paper to describe sex offenders who victimize prepubescent children (i.e., < age 12). Although the terms 'child offender' and 'pedophile' are often used interchangeably it is important to note that a diagnosis of pedophilia requires evidence of intense and frequent urges toward prepubescent children and is a diagnosis restricted to individuals who are at least 16 years old.

& Bussier, 1998), and, as compared to other sexual offenders, are more likely to have been sexually abused themselves in childhood (Jespersen, 2009). Although there is still debate in the literature as to why adult offenders who victimize children have higher rates of sexual recidivism and abuse than other adult sex offenders, several explanations have been offered (for a review see Seto & Lalumiere, 2010). For example, one explanation is that the experience of sexual abuse results in deviant patterns of sexual arousal that, in turn, lead to sexual offenses against children (Johnson & Knight, 2000). The degree to which these deviant patterns of arousal can be controlled has implications for sexual recidivism (Marshall & Barbaree; 1990). Alternatively, social learning theory has been used to explain associations between a history of sexual abuse and sexually offending children. Presumably, individuals model the sexual behaviors of their abusers (Stinson, 2008).

There is empirical support for lower rates of non-sexual criminality (e.g., non-sexual criminal history and non-sexual recidivism) among child offenders compared with other sexual offenders (Whitaker et al., 2008; Hanson & Bussiere, 1998). The question of why child offenders commit significantly fewer non-sexual crimes than other offenders has not been determined, but there are several plausible explanations. For example, there is empirical support for child sexual offenders to be less socially competent, and less likely to be affiliated with antisocial peer groups which, in turn, may lead to fewer opportunities to engage in delinquent/antisocial behavior (Marshall & Barbaree, 1990). Also, child offenders may have unique early experiences (e.g., sexual abuse) that direct them to a specific type of crime (e.g., sexual offending against children) and not delinquency in general (Burton, 2003). In summary, research has supported that relative to other adult sex offenders, those who victimize prepubescent children are more likely to have a

history of being sexually abused and more likely to sexually recidivate, but have lower rates of nonsexual criminal activity.

1.2. Classifying JSOs by Victim Age

Based on the findings in support of victim age classification for adult sexual offenders, researchers have attempted to extend the approach to JSOs. In fact, there are strong arguments that support the extension of victim age based subgroups to JSOs. For example, 40% - 50% of adult sexual offenders who victimize children report committing their first sexual offense in adolescence (Hunter, 1999); thus classifying JSOs by victim age may help researchers and practitioners identify budding child sexual offenders prior to their adult offending. Also, previous research suggests that JSOs and adult sexual offenders may have important similarities as compared to non-sexual offenders (e.g., higher rate of sexual recidivism, sexual abuse history, and lower rates of non-sexual criminality; Seto & Lalumiere, 2010; Aylwin et al., 2000; Worling, 2010). These similarities lend support for extending victim age classification from adult sexual offenders to the juvenile sexual offenders.

Some have questioned extending this method to JSOs, arguing that adult sexual offenders are different from JSOs in important ways. A prominent argument is that JSOs are inherently different from adult sexual offenders in terms of life experiences such as sexual encounters, education, employment status, and social development, and thus the characteristics that define adult sexual offenders are likely different from those of JSOs (Aylwin, 2000). This argument is supported by the findings that sexual deviance and victim gender preference are relatively stable in adults, but more fluid in juveniles (Hunter, Goodwin, & Becker, 1994). Regardless of these reservations, victim age classification among JSOs is an empirical question and one that warrants further study.

There are important considerations that need to be made when extending classification of victim age to JSOs. First, classifying by victim age is likely more challenging with a population of JSOs than for adult sexual offenders. When victim age is examined for adult sexual offenders, researchers can identify a meaningful cut-off by victim age for pre-pubescent children (i.e., 12 for girls, 14 for boys; Parent et al., 2003). However, because JSOs are, by definition, "juveniles," some have argued that both victim age as well as the age difference between the victim and the offender must be taken into consideration if one is to create meaningful subgroups (Kemper & Kistner, 2010). For example, if there are two JSOs with an 8-year-old victim, but in one case the offender was 16 years old and in the other the offender was 9 years old, are the two offenders examples of the same construct (e.g., child sexual offender)? Some researchers have suggested that victim-offender age discrepancy should be included with victim age in order to capture the differences in physical and emotional development of the offender and victims (e.g., child victim is less than 12 years old and more than 4 years younger than the offender) (Kemper & Kistner, 2010; Aylwin, Studer, Reddon, & Clelland, 2003; Worling, 1995).

Also, there are different definitions for what constitutes a meaningful age discrepancy between the offender and victim in JSOs. For example, some use a 3-year discrepancy between victim and offender (Kreamer et al., 1998) while others use a 5-year discrepancy (Ford & Linney, 1995; Hunter et al., 2003). Although one study found that small differences in the criteria used to assign youths to subgroups might not result in different findings (Kemper & Kistner, 2010), more research is needed. These authors did suggest, however, that future research use the combination method (e.g., victim is less than 12 and at least 4 years younger than the offender) as the preferred approach, as it is the most likely to maximize the difference between the offender and victim in regard to physical and emotional development.

The second important consideration when extending victim age classification to JSOs is how to group the JSOs who offend both children and peers (i.e., mixed offenders). In both the adult and JSO literature, mixed offenders are often lumped in with child offenders, peer offenders, or simply not included in studies (Kemper & Kistner, 2010). Based on the recent findings in the adult sexual offending literature (Parent et al., 2011), mixed offenders are a subgroup that merits study. Parent et al. (2011) found mixed offenders within the adult literature to be significantly higher than both child and adult offenders on sexual recidivism at 10 years post release (e.g., mixed 43%, adult 19.2%, child 17.4%); and lower than adult offenders on non-sexual recidivism (Adult 56.9%, mixed 41.5%; child 36.9%).

In comparison to adult sex offenders, much less research has been done comparing victim age subgroups of JSOs, but recent studies suggest that this may be a promising approach for advancing our understanding of JSOs. It is helpful to review the research on measures that have reliably differentiated victim age based subgroups of adult sex offenders (Mann et al., 2010; Jespersen, 2009; Whitaker et al, 2008; Hanson et al., 2005; Hanson & Bussiere, 1998) in order to then compare victim age based subgroups with JSOs. These are sexual recidivism, sexual abuse history, and non-sexual criminality. These three measures are related to meaningful outcomes. For example, research has supported that sexual recidivism and nonsexual criminality are useful in differentiating the JSOs who are similar to non-sexual offenders (i.e., generalists) and who are not (i.e., specialists), which in turn guides treatment and post-release monitoring decisions (Lussier, 2005). Also, there is a consensus among researchers that sexual abuse history may have implications for understanding and treating sexual offenders (Jespersen, 2009).

1.2.1 Victim Age Based Subgroups and Sexual Recidivism Risk

Findings from both the adult and juvenile sexual offending literature suggest that sexual

offenders vary greatly in their rate and pattern of sexual recidivism risk (Mann et al., 2010). Researchers within the adult sexual offending literature have successfully used victim age classification to identify more homogenous subgroups (e.g., child offenders and adult offenders) that predict sexual recidivism (Mann et al., 2010; Hanson et al., 2005; Hanson & Bussier, 1998). However, the question of whether JSOs who offend children are more likely than other JSOs to recidivate sexually still remains. There has been some indirect support for the link between JSOs who offend children and higher risk for sexual recidivism. For example, McCann & Lussier (2008) conducted a meta analysis and found support for victim characteristics to significantly predict sexual recidivism (d=. 15) and Hanson & Bussiere (2005) found sexual deviancy and deviant sexual interests (i.e., sexual attraction to children, rape, and other paraphilia) to predict sexual recidivism (d=. 30). Although, victim characteristics and sexual deviancy include victim age, support for victim age alone predicting sexual recidivism is lacking. In fact, Heilbrun et al. (2005) conducted a meta analysis of 9 independent studies and found that victim age did not significantly predict recidivism.

These inconsistent findings have left the JSO field with several unresolved questions. For example, is the lack of a significant relationship between victim age and sexual recidivism an artifact of insufficient power to detect reliable associations or an accurate reflection of the absence of a significant link? Several individual studies not included in the meta analyses have found trends toward child offenders having higher rates of sexual recidivism than peer offenders (Kahn & Chamber, 1991; Vandiver, 2006; Kemper & Kistner 2007; Parks & Bard, 2006), but all of the sample sizes were very small (e.g., none of the studies had a sample size of more than 20 sexual recidivists). This is to be expected considering the base rate of sexual recidivism among JSOs is approximately 12% (Reitzel et al., 2006). So, for a study to have sufficient

power to detect medium or even large effects, large samples are required (Kemper & O'Neal, 2011). Secondly, the meta analyses that examined victim age subgroups only used victim age thus the potentially useful information regarding victim-offender age discrepancy was not addressed. Third, differences in how recidivism is measured may contribute to inconsistent findings. For example, the length of time between release and recidivism, as well as the definition of recidivism, vary greatly between studies (e.g., one year to twenty years; self- report to state conviction records; Kemper & Kistner, 2010). In sum, it seems premature to conclude that the relationship between victim age and sexual recidivism among JSOs is not significant and thus is not worth examining when the previous studies may not have had the appropriate sample sizes to detect significant effects. One could argue that the meta analytic results account for small sample sizes, which is true, but unfortunately other than the 9 studies Heilbrun et al. (2005) reviewed, none of the meta analyses examined victim age as an individual predictor for sexual recidivism or included victim age discrepancy.

The second major question that has gone unanswered when examining victim age classification and sexual recidivism is, "Do mixed offenders have significantly higher sexual recidivism rates than child and peer offenders?" Unfortunately, the mixed offenders are often overlooked, and in fact within the JSO literature only two studies have examined their contribution to sexual recidivism (Kemper & Kistner, 2007; Parks & Bard, 2006). Although neither study found significant differences, Kemper & Kistner (2007) found a trend for mixed offenders to have higher rates of sexual recidivism than peer offenders, but less than child offenders; and Parks & Bard (2006) found a trend for mixed offenders to have higher rates of sexual recidivism than child offenders and less than peer offenders. Parks & Bard (2006) also found mixed offenders to consistently score higher than both child and peer offenders on sexual

recidivism risk measures [e.g., Sex Offender Assessment Protocol-11 (JSOAP-II) and the Psychopathy Checklist: Youth Version (PCL: YV)]. In sum, there is not sufficient evidence for, or against, the validity of victim age subgroups predicting sexual recidivism to argue convincingly that this classification method is useful for JSOs. In order to better understand the relationship future studies are needed that investigate this question with appropriate sample sizes.

1.2.2 Victim Age Based Subgroups and Sexual Abuse History

Findings from both the adult and JSO literature suggest that sexual offenders vary greatly in regard to sexual abuse history (Jespersen, 2009; Seto & Lalumiere, 2010). Adult sexual offenders who offend children are significantly more likely to have experienced sexual abuse (Jespersen, 2009). Although there is less research examining the relationship between victim age and sexual abuse history with JSOs, findings of a recent meta analysis (Seto & Lalumiere; 2010) suggest that this pattern of results also applies to JSOs. That is, the average weighted effect size for the seven studies that directly compared JSOs with child versus peer victims on sexual abuse history, found child offenders to have significantly higher rates of sexual abuse (d=-.30; 95% CI= -.48 to -.12).

However, mixed offender subgroups were not included in the meta analyses (e.g. they were classified as child or peer offender, or excluded from the individual study altogether). The approach to including mixed offenders with child offenders is problematic because mixed offenders may be very different in regard to etiology, treatment, and recidivism risk. For example, one study included mixed offenders when examining victim age and sexual abuse and found mixed and child offenders to have significantly higher rates of sexual abuse than peer offenders (47.62%, 39.9%, 18.18%, respectively; Kemper, 2006). Although more research is needed, it is possible that when mixed offenders are included as child offenders, they may be

accounting for the significant effect for child offenders to have higher rates of sexual abuse history.

An unresolved question regarding mixed offenders is, "Why would mixed offenders have higher rates of sexual abuse than both child and peer offenders?" One possibility may be related to the finding that children who have experienced sexual abuse are at increased risk for multiple types of psychopathology (Marshall & Barbaree, 1990). Moreover, sexual abuse has been found to be associated with increased problems with dysregulation, which may in turn lead to more impulsive acts (Marshall & Barbaree; 1990). The increased risk for psychopathology combined with the lack of impulse control may result in mixed offenders being indiscriminate in regard to selection of victims (e.g., choose victims based on convenience, act out in a variety of situations), thus having victims with a variety of characteristics. In sum, there is consistent empirical support for the distinction of JSOs with child versus peer offenders in regard to sexual abuse history, but little is known about the mixed offender subgroup (e.g., How many of the significant findings for child offenders are driven by mixed offenders? Do mixed offenders have significantly higher rates of sexual abuse history than child and peer offenders?) Future research is needed that examines the validity of victim age classification and sexual abuse history while including mixed offenders.

1.2.3 Victim Age Based Subgroups and Non-Sexual Criminality

As with sexual recidivism and sexual abuse history, there is significant heterogeneity among both adult and JSOs with respect to non-sexual criminality. The adult sexual offending literature has found a relatively consistent pattern of results where child offenders have lower rates of non-sexual criminality (both recidivism and prior criminal history) than adult offenders (Hanson & Bussiere, 1998). In addition, a recent study found support for adult mixed offenders

to have lower non-sexual recidivism rates than those who offend adults and similar rates as child offenders (Parent, et al., 2011). However, there is not sufficient support to say the same for JSOs. Only two studies examined differences between child, peer, and mixed offenders in regard to non-sexual recidivism and neither study found significant differences between groups (Kemper & Kistner, 2006; Parks & Bard, 2006).

In regard to non-sexual criminal history for juvenile offenders, the meta analysis by Seto and Lalumiere (2010) compared child and peer offenders on criminal history (both sexual and non-sexual) from six individual studies. As predicted, peer offenders had significantly higher rates of general delinquency (which included age of first criminal justice contact, extent of criminal involvement, conduct problems, antisocial tendencies, and substance abuse) than child offenders (d=. 21 95% CI= .05 to .37). Individual studies not included in this meta analysis found discrepant results. For example, one study found that the likelihood of nonsexual criminal history was higher for JSOs who victimize children (Hunter et al., 2003), and the one study that included mixed offenders only found a significant effect for peer offenders to have higher non-sexual charges than child offenders (average number was peers 7.2, child 5.0, mixed 4.7; Kemper & Kistner, 2007).

The findings for both non-sexual recidivism and non-sexual criminal history may support a similar pattern of results for JSOs as are found for adult sexual offenders, but the small effect sizes and lack of consistent evidence is not sufficient to make the claim that victim age classification differentiates among JSOs on non-sexual criminality. Also, there is the question of the role of mixed offenders. Obviously, more studies are needed, but if the findings regarding mixed offenders receive significant support in future studies, it may be that mixed offenders are a group of sexual offenders that represent a combination of findings from the child and peer

subgroups (e.g., high sexual recidivism, high sexual abuse history and moderate levels of non-sexual criminality as compared to child and peer offenders).

1.3. Present Study

Although the adult sexual offending literature has supported the validity of victim age in differentiating among sexual offenders (Mann et al., 2010; Hanson et al., 2005; Hanson & Bussier, 1998), there has been relatively little support for extending this approach to JSOs (Kemper & O'Neal, 2011). The purpose of the present study was to examine the validity of classifying JSOs based on victim age. Specifically, the study used a combination of victim age (i.e., victim is 12-years old and under) and victim-offender age discrepancy (i.e., victim is at least 4 years younger than the offender) to form subgroups of JSOs, and examine the differences between these subgroups in respect to sexual recidivism, sexual abuse history, and non-sexual criminality[‡].

The present study attempted to improve upon limitations of prior research in a variety of ways. First, to increase power, the study used a large sample size of JSOs (N= 592). Second, as more time between release and the recidivism search has been found to be a significant predictor of higher recidivism rates for JSOs (Fortune & Lambie, 2006; Gerhold et al., 2007; Worling & Langstrom, 2006; McCann & Lussier, 2008), the present study utilized recidivism data for a longer period of time (mean length of 8 years) than the average length of most studies (2 - 6 years; Gerhold, et al., 2007). In order to compare results from the present study to previous studies, the most common method for measuring recidivism (e.g., adjudications for new offenses; Hanson & Bussiere, 2005) was used.

[‡] This approach to is referred to as 'victim age classification' throughout the paper. The classification method, technically, includes both victim age and victim-offender age discrepancy, but is referred to as victim age classification in order to be consistent with previous research (Kemper & Kistner, 2010).

Third, as one of the main limitations of previous research is to examine only two groups of victim age based subgroups (i.e., peer offenders and child offenders), the present study classified the JSOs who offend both children and peers in their own subgroup. Finally, in order to test the predictions regarding similarities between certain victim age based subgroups and non-sexual offenders (e.g., peer offenders are more similar to non-sexual offenders than child offenders) the present study included a non-sexual comparison group. In sum, the purpose of the present study was to examine the validity of victim age based subgroups for JSOs in a manner that addresses major limitations of previous research (e.g., lack of mixed offender subgroup, non-sexual comparison group, and a variety of methodological limitations).

The following predictions were made in regard to victim age subgroups and sexual abuse history. First, it was predicted that the mixed offender group would have higher rates of sexual abuse history than all other groups. Also, it was predicted that child offenders would have the second highest rates of sexual abuse history and then peer offenders; and all JSOs subgroups will have significantly higher rates of sexual abuse as compared to non-sexual offenders.

In regard to non-sexual criminal history, it was predicted that the peer offender group would have higher rates of non-sexual criminal history than both the child and mixed offenders. No specific predictions were made in regard to differences between the peer offender and non-sexual offender group for non-sexual criminal history, but it was predicted that both the peer and non-sexual offender groups would have higher rates of non-sexual criminal history than the mixed group and child offender group.

Finally, it was predicted that the mixed offender group would have the highest rate of sexual recidivism, followed by child offenders, and then peer offenders. Also, it was predicted that child and mixed offenders would significantly differ from non-sexual offenders on sexual re-

offense, but peer offenders would not. In regard to non-sexual recidivism, it was predicted that the peer offender group would have higher rates of non-sexual re-offense than both the child and mixed offenders. No specific predictions were made in regard to differences between the peer offender and non-sexual offender group, but it was predicted that both the peer and non-sexual offender groups would have higher rates of non-sexual re-offense than the mixed group and child offender group.

CHAPTER TWO

METHOD

2.1 Participants

The study was based on archival data from the intake reports of 1,719 youths, between the ages of 12 – 19, remanded to a high security juvenile justice facility located in the southeastern United States. In order to be placed in this juvenile justice facility the youth must have been considered serious or chronic offenders and have been adjudicated for at least a third degree felony (e.g., burglary, robbery, assault, arson, and drug related offenses).

Youths were classified as juvenile sexual offenders (JSO) if they had at least one adjudicated sexual offense; for the purposes of this study, youths with no sexual adjudications are referred to as "delinquents". A small group of offenders (N= 101) who had been charged but not adjudicated for a sexual offense were dropped from the sample.

JSOs were classified into one of three, mutually exclusive subgroups based on a combination of: 1) ages of their victims; and 2) age differences between JSOs and their victims. Specifically, if all of the victims of a JSO were 12-years of age and under, and at least 4 years younger than the offender, then the JSO was classified as a child offender. A juvenile was categorized as a peer offender if all the victims were older than 12 years old or less than 4 years younger than the juvenile at the time of the offense. A juvenile was categorized as a mixed offender if he had at least one victim 12-years old or under, and at least 4 years younger than the offender and at least one victim older than age 12 or less than 4 years younger than the offender. Due to missing data on ages of victims, 46 JSOs could not be classified into one of these subgroups; they were excluded from the study. The final sample included a total of 1,572 youths;

1020 delinquent (64.89%) 372 child (23.66%); 150 peer (9.54%); and 30 mixed (1.90%) offenders.

The majority of the sample was African American (49.9%) and Caucasian (46.6%). The mean age of first contact with the juvenile justice system (i.e., first referral) was 12.5-years old (SD=2.27). The average age of admissions to the current facility was 15.9-years old (SD=1.34). The mean number of adjudications prior to commitment at the current facility was 8.1 (SD=6.93). The average number of commitments, including their current commitment was 1.88 (SD=1.1).

2.2 Measures

2.2.1 Number of Adjudications

This measure represents the total number of criminal charges for which the juveniles were adjudicated prior to admissions. This was included in the present study to describe the severity of criminal history via frequency of confirmed criminal activity, as criminal history has been linked to future criminality (Seto & Lalumiere; 2010). The adjudications were coded from the predisposition reports and police reports in the intake file for each juvenile. Non-sexual adjudications was derived from the total number of adjudications (Appendix A).

2.2.2 Age of First Referral

This measure represents the age of the offenders when they were first referred to the juvenile court system. A referral takes place prior to a court petition being filed to request an adjudicatory hearing on a charge, thus it only indicates that there may be sufficient evidence to file criminal charges. Criminal offenses by juveniles, especially their first criminal offense, may be dismissed from the juvenile court with no further action or the referral may be diverted from the formal juvenile justice system to another agency that may be more appropriate to rehabilitate

juvenile offenders (e.g., diversion programs, problem solving courts, etc.) These programs serve as an option for offenders, to avoid criminal charges by participating in a program focused toward rehabilitation.

This measure was included in the present study to describe the severity of criminal history for offenders, as younger age of first involvement with the juvenile justice system has been linked to future criminality (Seto & Lalumiere; 2010). Moreover, it was included to represent the most sensitive measure of the offender's age at the time of their first involvement with the criminal court system. The date of first referral was coded from the predisposition reports and police reports in the intake file for each juvenile.

2.2.3 Prior Commitments to Juvenile Justice Facilities

Total number of prior commitments to a DJJ residential facility was coded from youths' files as an additional indicator of the severity of their criminal histories. A commitment was considered any time a juvenile was court ordered to be remanded to, and subsequently admitted at, a DJJ facility.

2.2.4 Youth's History of Being Sexually Abused

Presence or absence of sexual abuse (i.e., the youth was a victim of sexual abuse) was coded from police reports, Department of Children and Family (DCF) reports, psychological/psychosexual evaluations, and predisposition reports in youths' intake files. Sexual abuse was coded "present" if information regarding reported or documented history of sexual abuse was recorded in any of these documents. If there was a vague reference to "abuse" in one place in the file, with no specifics, coders were instructed not to code as present. If official reports and self-report of abuse conflicted, coders were instructed to use their best judgment to make a coding decision with priority placed on information from official documents (i.e., DCF

reports, police reports, etc.) For example, if a youth denied being sexually abused, but there were documented details in the file, the coder was instructed to code as present. Moreover, if a youth self disclosed details of sexual abuse in a psychological report, but it was not documented elsewhere in the file, the coder was instructed to record as present.

2.2.5 Total Victims

This measure represents the total number of victims for each sexual offender. Sexual offense details were only coded for adjudicated sexual offenses, so this variable represents victims of crimes that were adjudicated. The total number of victims was coded from the predisposition reports and police reports in the intake file for each juvenile.

2.2.6 Measures of Recidivism

Post-release adjudications were classified as "sexual" if the offense was considered sexual in nature or "non-sexual" if it was not. The sexual offense and non-sexual offense codes are listed in Appendix B. Only the first sexual and, or, non-sexual adjudication was included in the study, thus the total number of adjudications for each juvenile post release was not measured (i.e., subsequent re-offenses were not included in the study). The sexual and non-sexual adjudications were used to create a dichotomous variable that measured whether the juvenile was a sexual, and, or, non-sexual recidivist. [§]

[§] A juvenile who commits a sexual offense post release is typically not defined as "sexual recidivist" unless the offender had previously committed a sexual crime. In order to best compare offenders within and between groups, the current study examined sexual offending post release for JSOs as well as delinquents.

Data on post-release adjudications were obtained from the Florida Department of Law Enforcement (FDLE) on May 2, 2011. The FDLE research analyst searched Florida's Computerized Criminal History (CCH) database for youths using first and last names and then verified by middle names and dates of birth. The CCH is a fingerprint-based criminal record database that contains arrest and conviction records from contributing agencies throughout the state of Florida. The database does not contain records that are sealed or expunged, thus most records are from the adult system. The search was conducted on average 8.09 years post release (SD=3.17; Range=13).

2.3 Procedures

The Institutional Review Boards of the Department of Juvenile Justice (DJJ) and the Florida State University Human Subjects Committee approved the procedures of this study. All data used for this study were archival and part of an on-going project to monitor treatment within juvenile justice facilities.

All files were coded by graduate level clinical psychology students who demonstrated reliability in coding as part of the training process. Likewise, all coders were required to code a minimum of seven training files after reviewing the coding procedures and discuss discrepancies with the supervision team. Once coders were trained, they worked individually and reported any questions or discrepancies to the research team as needed. Interrater reliability was examined by re-coding 94 files. Graduate students coding the reliability cases were blind to initial results. Kappa coefficients for the coded variables were as follows: presence of sexual abuse (.79), total number of commitments (.93), total adjudications (.77), total sexual adjudications (.95), total number of victims (.97). Once coded, all files were entered into an electronic database by either a graduate student or supervised undergraduate students.

2.4 Data Analytic Approach

2.4.1 Descriptive Analyses

Prior to examining results, all variables were evaluated for assumptions of the planned parametric tests. Due to the large difference in the size of the subgroups (i.e., 1,020 in the delinquent group and 30 in mixed subgroup), non-parametric alternatives were used for analyses that included the delinquent subgroup as recommended by Pallant (2010). Parametric tests were used when examining within group differences for JSOs, as the difference between the sample sizes of the subgroups were not significant (i.e., largest subgroups/smallest subgroup <1.5; Pallant, 2010). The Kruskal Wallis test was used for analyses that included the delinquent subgroups; and if appropriate the Mann-Whitney U test was used to conduct post-hoc analyses. If the assumptions of planned parametric test were not violated (i.e., the delinquent subgroup was not included in the analysis) ANOVA was used and when appropriate post hoc comparisons were examined using the Tukey Honestly Significant Difference (HSD) Test.

2.4.2 Testing Hypotheses

2.4.2.1. Sexual abuse history. Logistic regression analyses were used to examine if the subgroups differentiated on sexual abuse history. Prior to examining results, all variables were evaluated for fit between distribution and assumptions of logistic regressions. It was hypothesized that the mixed offender group would have a higher probability of experiencing sexual abuse; followed by child offenders, peer offenders, and finally delinquent offenders. The four subgroups (i.e., child, peer, mixed, and delinquent) were included in the analysis as the independent variables. The dependent variable was a dichotomous variable (i.e., presence or absence of sexual abuse).

2.4.2.2. Non-sexual criminal history. Prior to examining results, all variables were evaluated for fit between distribution and assumptions of parametric tests. Due to the violation of parametric assumptions (i.e. large difference in sample size between subgroups), non-sexual criminal history was examined using the non-parametric alternatives. To compare the four subgroups (i.e., child, peer, mixed, delinquent) the Kruskal-Wallis test and, if appropriate, post-hoc comparisons using the Mann-Whitney U test were used.

2.4.2.3. Recidivism. The hypotheses regarding sexual and non-sexual recidivism were examined using Cox regression survival analyses (Cox & Oakes, 1984). The Cox regression analyses examined the predictive associations between victim age based subgroups and recidivism (e.g., sexual recidivism, and non-sexual recidivism).

Cox regression analyses were used because they allow for the use of multiple predictor variables for survival. Furthermore, Cox regressions are similar to linear regressions in a variety of ways; both Cox and Linear regressions calculate the strength of the relationship between a set of independent variables and dependent variables; produce regression coefficients, and predicted values; allow for interactions between variables; and adjust for confounding variables. However, whereas linear regressions predict scores based on a continuous dependent variable, Cox regressions predict based on the likelihood of an event occurring (Wright, 2000).

Survival rate was calculated as days between the admission date and the date of the first adjudicated charges. Three variables were considered as the start date for the survival period (i.e., date of admissions, date of release, and targeted date of release). Targeted release date was assigned to the juvenile at admissions. Date of admission was used for the main analyses for several reasons. First, no boys were missing date of admission information (date of release was

missing for 320 and targeted release date was missing for 115 juveniles). Secondly, using date of admission identified recidivism that occurred while still detained in a juvenile detention facility.

When calculating Cox regressions there are several assumptions that must be met. Most of the assumptions were met as a result of the design of the study (e.g., independent-censoring assumption; adequate sample size; statistical independence, precise measurement and mutually exclusive events; recidivism adjudications occurring after the start of the study (Cox & Oakes, 1984). Due to the possibility that age could impact survival rate (i.e., younger juveniles had less time in the adult system at the time the recidivism search was conducted), the assumption of proportional hazard was tested. Specifically, the interaction between time (i.e., variable to represent the natural logarithm of time) and age was examined (Tabachnick et al., 2007). Results indicated that sexual and non-sexual survival did not vary systematically based on the age of an offender, ($\chi 2$ (1)=1.63, p= .20; $\chi 2$ (1)=. 016, p= .9). Thus, the assumption of proportional hazard was not violated.[**]

[**] Exploratory methods for classifying JSOs in regard to recidivism are reviewed in appendix C.

CHAPTER THREE

RESULTS

3.1 Preliminary Analyses

Accuracy of data entry and missing values were examined for all variables. Less than 2.5% of juveniles were missing information for the following variables: total number of adjudications (N=1542), age of first referral (N=1536), total number of commitments (N=1557), presence of sexual abuse (N=1544), non-sexual adjudications (N=1541) and sexual adjudications (N=547/552). These cases were excluded from the respective analyses. Skewness and kurtosis values were appropriate for all variables and no multivariate outliers were identified. The non-sexual charges variable had univariate outliers, but results did not differ when univariate outliers were assigned values within three standard deviations of the mean. Bivariate correlations for continuous variables are presented in Table 1.

3.1.1. Non-Sexual Criminal History

For descriptive purposes, the subgroups were compared on four indicators of severity of criminal behavior prior to admission to the current facility: age of first referral, age of commitment to the current facility, total number of commitments, and total number of adjudications (Table 2). The Kruskal Wallis test was used, and, if appropriate, the Mann-Whitney U test was used to conduct post-hoc analyses. Results revealed a significant difference between the subgroups for age of first referral and age of commitment to the current facility (χP2P (3) = 27.21, p =. 00; χP2P (3) = 43.37, p =. 00, respectively). There was also a significant difference for total number of commitments and total number of adjudications (χP2P (3) = 82.48, p =. 00; χP2P (3) = 89.01, p =. 00, respectively).

In regard to age of first referral, post hoc comparisons revealed that child offenders were significantly older at age of first referral as compared to delinquents (U=148946, z=-5.17, p=. 00), and peer offenders (U=23010, z=-3.00, p=. 00), both with a small effect size (r=. 13; r=. 08, respectively). In regard to age of commitment to the current facility, however, child offenders were younger than delinquent offenders with a small effect size (U=148250, z=-6.42, p=. 00, r=. 17). No other significant differences for age of first referral and age of commitment to the current facility were found between subgroups.

In regard to total number of commitments, post hoc comparisons indicated that the delinquent subgroup had significantly more commitments than the child subgroup with a medium effect size (U=108563, z=-12.77, p=. 00, r= .32); and significantly more commitments than the peer subgroup with a small effect size (U=51045, z=-6.64, p=. 00, r=. 17). Mixed offenders had significantly more commitments than child offenders (U=4164, z=-2.94, p=. 00, r=. 07). No significant differences were found between the mixed and delinquent offenders or the mixed and peer offenders. In regard to total number of adjudications, post hoc comparisons indicated that child and peer subgroups had significantly fewer adjudications as compared to the delinquent subgroup (U=107981, z=-11.86, p=. 00, r= .30; U=59530, z=-3.97, p=. 00, r= .10, respectively). The child subgroup had significantly fewer adjudications than the peers (U=21819, z=-3.93, p=. 00, r= .10) and mixed (U=3486, z=-3.45, p=. 00, r= .09). No significant differences were found between the mixed and delinquent offenders or the mixed and peer offenders.

3.1.2. Sexual Criminal History

For descriptive purposes, the JSO subgroups were compared on sexual offense details, including age of first sexual adjudication, total number of sexual adjudications, and number of victims (Table 3). ANOVA results indicated no significant difference between subgroups on age

of first sexual adjudication, but JSO groups did differ on sexual adjudications and total number of victims (F (2, 544) = 3.59, *p*=. 00; F (2,538) = 22.41, p=. 00). Post hoc comparisons using the Tukey HSD test indicated that mixed offenders had significantly more sexual adjudications and victims than the child and peer subgroups, both with large effect sizes (sexual adjudications d= 1.46, 1.21, respectively; number of victims d= .98, 1.52, respectively). No differences were found between child and peer offender subgroups.

Mixed offenders, by definition, must have committed at least one adjudicated offense against a peer and one against a child, so a second ANOVA analysis was run to compare mixed offenders with child and peer offenders who had at least two adjudicated offenses on age of first sexual adjudication, total number of sexual adjudications, and number of victims (Table 4). No significant differences were found between subgroups on age of first sexual adjudication, or total number of sexual adjudications. Significant differences were still found for total number of victims. Specifically, mixed offenders still had significantly more victims than child offenders (mean difference=. 90, 95% CI: .10 to 1.69; d= .79) but not peer offenders (mean difference=. 74, 95% CI: -.23 to 1.7). No differences in victims were found between child and peer offender subgroups.

3.2 Testing Hypotheses

3.2.1. Sexual Abuse History

It was predicted that the mixed group would have a higher probability of experiencing sexual abuse than all other groups, followed by child, peer, and delinquent groups. The hypotheses were supported. As depicted in Figure 1, 31.40% of the JSOs had been sexually abused (N=173/551; SD= .47) and 5.44% of delinquent offenders (N=54/993; SD= .23). Within JSOs, mixed offenders were most likely to have been sexually abused (43.33%; N=13/30; SD=

.50), followed by child (33.96%; N=126/371; SD= .47), and peer offenders (22.67%; N=34/150; SD= .42).

The logistic regression model comparing subgroups on sexual abuse history was significant ($\chi 2$ (3)=192.70, p= .00), indicating that the subgroups reliably differentiated between the presence and absence of sexual abuse. The variance in sexual abuse accounted for is small, with small effect size estimates (Nagelkerke R^2 = .214; Cox & Snell= .121). According to the Wald criterion, all three JSO subgroups had a significantly higher probability of experiencing sexual abuse than delinquent offenders. Mixed offenders were 13.30 times more likely to have experienced sexual abuse as compared to delinquents (p<.00). Furthermore, child offenders were 8.94 and peer offenders 5.10 times more likely to have been victims of sexual abuse in childhood than delinquent offenders (p<.00). Mixed offenders were 2.61 and child offenders were 1.76 times more likely than peer offenders to have been victims of sexual abuse in childhood (p=.01). Child and mixed groups did not differ in likelihood of a history of sexual abuse.

3.2.2. Non-Sexual Criminal History

Delinquent offenders had the highest number of prior non-sexual adjudications (M=9.29; SD=7.25). Within JSOs, the peer offenders had the highest number of non-sexual adjudications (M=5.71; SD=5.72), followed by mixed (M=5.6;SD=7.52), and child offenders (M=3.88;SD=5.44)(Figure 2).

The following covariates were included in the analysis: age of commitment to the current facility, age of first referral, and total number of commitments. Results from the Kruskal Wallis test revealed a significant difference between the subgroups for non-sexual adjudications (χP2P (3) = 292.73, p =. 00). Post hoc comparisons using the Mann-Whitney test indicated that the mean number of non-sexual adjudications for delinquent offenders was significantly larger than

peer offenders (U=46719.00, z=-6.96, p=.00, r=.10), mixed offenders (U=8460.50, z=-4.04, p=.00, r=.10), and child offenders (U=78370, z=-16.43, p=.00, r=.41). The only other significant group difference was child offenders had significantly fewer non-sexual criminal adjudications at intake than peer offenders (U=20454, z=-4.43, p=. 00), with a small effect size (r=. 11).

3.2.3. Descriptive Recidivism

The overall re-offense rate for the sample was 71.4% (Table 5). Survival length began at the date of commitment to the facility. The mean age of the sample at date of commitment was 15.87-years old (SD=1.34). The average length of time between date of commitment and re-offense was 2.63 years (SD=1.83) with a mean age of re-offense of 19.01-years old (SD=1.89) (Table 6)*.

3.2.4. Sexual Recidivism

The sexual re-offense rate for the entire sample was 4.2% (N=66). Mixed offenders had a higher rate of sexual recidivism than the other subgroups (16.7%; N=5), followed by child offenders (8.6%; N=32), delinquent offenders (2.5%; N=26), and finally peer offenders (2%; N=3). There were 15 recidivists who re-offended sexually without committing a non-sexual re-offense (<1% of recidivists). The subgroup with the largest percentage of strictly sexual re-offenders was mixed offenders, with 6.7% (N=2) being strictly sexual re-offenders. Also, .5% of delinquent offenders (N=5), 2.2% of child offenders (N=8), and 0 peer offenders re-offended only with sexual crimes (Table 5). The mean age of sexual re-offense was 20.74-years old (SD=3.07). The average amount of time between commitment and sexual re-offense was 4.68 years (SD=3.07)(Table 6).

* Survival curves are included in Appendix D to illustrate the likelihood of re-offense at various cut points.

Two Cox regressions were calculated to examine sexual recidivism rates. The first compared the predictive ability of JSOs as a whole, and the delinquents (Table 7); and the second compared the predictive ability of the four subgroups (i.e., child, peer, mixed, and delinquent)(Table 8-11). Sexual adjudications and sexual abuse were included as control variables in the sexual recidivism model. There was a good model fit on the basis of the control variables for sexual recidivism ($\chi 2$ (2)=14.71 p< .00). When JSOs, as a whole, versus the delinquent offender subgroup was added, there was a significantly better fit $\chi 2$ (1)=6.23, p=. *01*. JSOs were 2.3 times more likely to sexually recidivate as compared to delinquent offenders ($\chi 2$ (1)=5.77, p=. 02).

There was also a significantly better prediction of sexual recidivism when the individual subgroups (i.e., child, peer, mixed, and delinquent) were added $\chi 2$ (3)=16.28, p<. 00. As seen in Figure 3, child offenders were 3.31 times more likely to re-offend than delinquent offenders (p< .00), and mixed offenders were 6.4 times more likely to sexually re-offend than delinquent offenders (p< .00). Child offenders were also 4.08 times more likely to re-offend than peer offenders (p= .02), and mixed offenders were 7.88 times more likely to sexually re-offend than peer offenders (p= .01). The difference between likelihood of sexual recidivism for child and mixed subgroups was not significantly different, nor was the difference between delinquent offenders and peer offenders.

3.2.5. Non-Sexual Recidivism

The non-sexual re-offense rate for the entire sample was 70.5% (N=1108). The delinquent offender subgroup had the highest prevalence (78.1%; N=797), followed by peer offenders (61.3%; N=92), mixed offenders (60%; N=18), and child offenders (54%: N=201). There were 1057 recidivists who re-offended non-sexually without committing a sexual re-

offense (67.2%). The subgroup with the largest percentage of strictly non-sexual re-offenders was the delinquent offender subgroup, with 76.1% (N=776) being strictly non-sexual re-offenders. Also, 59.33% (N=89) of peer offenders, 50% of mixed offenders (N=15), and 47.6% of child offenders re-offended only with non-sexual crimes (N=177)(Table 5). The mean age of non-sexual re-offense was 19.02-years old (SD=1.89). The average amount of time between commitment and non-sexual re-offense was 2.63 years (SD=1.84)(Table 6).

Two cox regressions were calculated to examine non-sexual recidivism rates. The first compared the predictive ability of JSOs as a whole, and delinquents (Table 12); and the second compared the predictive ability of the four subgroups (i.e., child, peer, mixed, and delinquent)(Table 13-16). Total number of adjudications, total number of commitments, and age of first referral were included as control variables in the model. There was a good model fit on the basis of the control variables for non-sexual recidivism ($\chi 2$ (3)=168.28, p= .00). When JSOs, as a whole, versus the delinquent offender subgroup was added, there was a significantly better fit ($\chi 2$ (1)=88.54, p=. 00). The delinquent offenders were 1.92 times more likely to re-offend non-sexually as compared to JSOs ($\chi 2$ (1)=83.48, p<. 00).

There was also a significantly better prediction of non-sexual recidivism when the individual subgroups were added (i.e., child, peer, mixed, and delinquent) were added ($\chi 2$ (3)=89.8, p=. 00). As seen in Figure 4, peer, child, and mixed offenders were significantly less likely to re-offend than delinquent offenders. Specifically, delinquent offenders were 1.78 times more likely to re-offend non-sexually than peer offenders (p< .00), 1.96 times more likely than child offenders (p< .00), and 2.20 times more likely than mixed offenders (p< .00). No other significant differences were found.

The non-sexual recidivism variable and sexual recidivism variable were not mutually exclusive. Likewise there were 51 cases (3.2% of JSOs) where a recidivist had both a non-sexual and sexual offense. As seen in Table 5, the majority of the double recidivists were child (N=24) and delinquent offenders (N=21). However, this is expected because these two subgroups were much larger than the peer and mixed offender groups. The subgroup with the largest percentage of double recidivists was the mixed offender subgroup, with 10% of mixed offenders being double recidivists (N=3).

CHAPTER FOUR

DISCUSSION

Although the adult sexual offending literature has supported the validity of using victim age to differentiate among sexual offenders (Mann et al., 2010; Hanson et al., 2005; Hanson & Bussier, 1998), there has been less support for extending this approach to JSOs (Kemper & O'Neal, 2011). The lack of support for victim age subgroups with juvenile sexual offenders may be because victim age classification is not a valid method for differentiating among juveniles or it may be an artifact of prior study limitations (e.g., lack of mixed offender subgroup, non-sexual comparison group, and a variety of methodological limitations).

A major finding from this study is that the classification approach significantly predicted the meaningful outcomes. These findings suggest that extending victim age classification used with adult offenders to JSOs may be useful in creating more homogenous subgroups. Also, the results supported that those who offend against children (i.e., child or mixed offenders) are different than those who have not (i.e., peer and delinquent offenders). Specifically, juveniles who offended against children had experienced sexual abuse at significantly higher rates and were found to be at significantly greater risk to re-offend sexually than peer and delinquent offenders. This is consistent with findings from the adult literature. The lack of findings from previous studies with JSOs may be due to study limitations, such as insufficient power, and inconsistent methods in classifying victim age subgroups (i.e., utilizing victim age versus victim age as well as victim-offender age discrepancy). Moreover, the current study had a larger sample size than previous studies and employed the dual method for classifying victim age subgroups. Although one study found that method of classification does not lead to significantly different findings (Kemper & Kistner, 2010), it is plausible that more research is needed to better examine

the importance of methodology for victim age classification.

The results of this study also supported that juveniles who offend against children (i.e., child and mixed offenders) had lower rates of non-sexual criminality than those who had not (peer and delinquent offenders). Specifically, juveniles who offend against children have lower rates of non-sexual criminal history as compared to peer and delinquent offenders. The pattern of results for non-sexual recidivism was not as clear (i.e., there was not a significant difference between juveniles who offend against children and peer offenders), but there was a trend toward peer offenders having higher rates than child and mixed offenders. The adult sexual offending literature has found a relatively consistent pattern of results where child offenders have lower rates of non-sexual criminality (both recidivism and prior criminal history) than adult offenders (Hanson & Bussiere, 1998). Studies with JSOs have been much less consistent. Moreover, one study found that the likelihood of nonsexual criminal history was higher for JSOs who victimize children (Hunter et al., 2003), and the one study that included mixed offenders only found a significant effect for peer offenders to have higher non-sexual charges than child offenders (average number was peers 7.2, child 5.0, mixed 4.7; Kemper & Kistner, 2007). In regard to non-sexual recidivism with JSOs, only two studies examined differences between child, peer, and mixed offenders in regard to non-sexual recidivism and neither study found significant differences between groups (Kemper & Kistner, 2010; Parks & Bard, 2006). Lack of sufficient power, in the small number of studies with JSOs, may have contributed to the current study identifying findings when prior research did not.

The findings from the current study did not support the mixed offender subgroup as significantly more severe than the other subgroups. There was, however, a trend towards mixed offenders being a more severe subgroup. Moreover, the mixed offenders were as severe as child

offenders on rates of sexual abuse and sexual recidivism risk; and had rates as high as peer offenders on non-sexual criminal history and non-sexual recidivism. Although these findings are preliminary, the mixed offender subgroup may represent JSOs who are more severe than other offenders on a variety of different outcome measures.

There are a variety of implications for these findings in regard to etiology and treatment of JSOs. Primarily, the findings supported the theory that some JSOs may be best understood as generalist offenders versus specialist offenders (Lussier, 2005). Moreover, the juveniles who offended against children (i.e., child and mixed offenders) may be specialist offenders who share similar etiologies, such as higher rates of sexual abuse history; and greater risk of future sexual offending. In contrast, those who do not offend children (i.e., peer offenders) may be better defined as generalists who are more similar to non-sexual offenders in etiology (e.g., lower rates of sexual abuse history) and lower risk of future sexual offending.

The distinction among generalists and specialists has garnered quite a deal of support within the adult sexual offending literature (Harris, et al., 2011; Prentky & Knight, 1991). Some have theorized that it also applies to JSOs (Kemper & O'Neal, 2011), but the findings have been mixed. Further research is needed, but the results from the current study suggest that the "one size fits all" treatment and prediction models for JSOs could be improved upon by specializing treatment for those who offend children versus those who do not.

For example, the policies that distinguish treatment and recidivism risk strictly upon whether or not the offender committed a sexual crime may be improved upon if further research supports the distinction of peer offenders from other JSOs. Current treatment policy is to specialize, or require additional, treatment within juvenile justice facilities for juveniles who have committed a sexual offense (Florida Statute 985). Also, under the federal Sex Offender

Registration and Notification Act (SORNA), established in 2006, juvenile sexual offenders are required to register if, they are at least 14 years of age, and adjudicated for a crime comparable to, or more severe than, an aggravated sexual abuse. It may be that victim age characteristics are equally or more useful than age of the offender and severity of the offense (i.e., equal to or more severe than aggravated sexual assault) in differentiating treatment and recidivism risk prediction for JSOs. The lack of previous findings for the generalist versus specialist distinction within JSOs may have been due partly to the limitations addressed in the current study.

Another implication for the findings from the current study is that victim age classification may be a useful method for identifying more homogenous subgroups of JSOs. There are unique challenges when applying this approach to offenders who are by definition juveniles as well. For example, victim age classification with JSOs has been criticized because juveniles are different than adult offenders in a variety of ways including their development and life experiences. Based on the results from this study, victim age classification may have value if the method includes examining discrepancy between the age of victim and offender. The discrepancy between the age of the offender and victim is not utilized with adult offenders and has largely been ignored with juvenile offenders, but may speak to developmental differences and power differentials between offender and victim.

4.1 Limitations and Future Directions

The current study attempted to address major limitations of previous research, however, there are still limitations that should be considered when interpreting the results. First, criminal history and recidivism rates were based on adjudicated offenses. This is a more stringent criterion than using charges, or self-report, and may lead to a more conservative estimate. Despite this possibility, the non-sexual recidivism rates for the current study (58.2%) are higher than the previously reviewed recidivism rates from other studies with JSOs (20.4% - 28.51%,

Reitzel et al., 2006). Also, in regard to the sexual recidivism rate, the rate from this study (7.2%) was similar to previous studies that included JSOs who had received sexual offender treatment. Moreover, a Meta analysis by Reitzel et al., (2006) reported the sexual recidivism rate for JSOs, overall, was 12.53%; and the sexual recidivism rate for JSOs who received some form of treatment was 7.37%. A second limitation was the use of administrative records to assess prior criminal history and adjudicated offenses to assess recidivism. Although both of these methods are common practice and serve as a conservative method for measuring criminality they are potentially biased based on characteristics of the offender (e.g., child offenders may be monitored more closely while on parole than peer offenders). Also, the recidivism records do not account for records that are sealed or expunged, thus most records are from the adult system. Recidivism rate has been found to be lower for studies that examined adult time frame recidivism than juvenile databases (Caldwell, 2010). This is not of particular concern for the proposed study because only searching adult's records is common practice in juvenile justice research (Worling, 2010), and the recidivism rate continues to increase at a consistent pace from post release until the offender reaches their mid-twenties.

Finally, the results from this study may, or may not, generalize to other types of juvenile offenders. Moreover, the sample consisted of serious or chronic male offenders placed in the same high security juvenile justice facility, so results may not generalize to epidemiological samples, female juvenile offenders, or less severe offenders.

4.2 Conclusions

The results from the current study call for future research to explore several important aspects of juvenile sexual offending. First, additional research is needed to examine if juvenile offenders who offend against children differ in terms of causes, response to treatment, and risk for recidivism when mixed offenders are included with child offenders. Also, research should

continue to explore the efficacy of utilizing the dual criteria to subgroup JSOs by victim age. Although the results from this study appear to support the dual criteria for victim age subgroups, previous research has found that there are not significant differences in findings when JSOs are grouped using different cut-offs for victim age and victim-offender age discrepancy (Kemper & Kistner, 2010). Even though there is very limited research examining the utility of using a dual method to classify JSOs there are theoretical reasons to support using both of them together. For example, if only victim age is used, the differences between offender and victim are not captured. This may lead to missing useful information such as a larger discrepancy may increase the ability to coerce. Moreover, if only victim-offender age discrepancy is used, the sexual maturity of the victim is not captured (i.e., is the victim prepubescent or postpubescent) (Prentky et al., 2011).

It may be that the dual criteria used to classify the JSOs by victim age are more effectively representing a construct of sexual deviancy. Based on research in the adult sexual offending literature it appears that there are differences in the etiology and development of those who offend prepubescent children versus postpubescent. Typically, that is attributed to the differences in sexual development, but it also may be differences between offenders that enable them to offend against a same-age victim versus the large power differential when offending against a prepubescent child.

There are possibilities for improving upon this classification approach that may be useful to explore. The current study utilized a 4-year discrepancy between the offender and victim (as recommended by Kemper & Kistner, 2010), however, more research may be helpful to explore additional classification approaches. Prior research supported that the years between offender and victim (e.g., 3 years, 4 years, or 5 years) did not make a significant different in results, but

only one study has examined these differences (Kemper & Kistner, 2010), so more research may be useful. This study attempted to explore alternative methods for classifying JSOs (Appendix C). Based on these preliminary results, it does not appear that using continuous measures of victim age and victim age discrepancy are as useful the categorical classification method used in our main analyses, at predicting sexual abuse, sexual recidivism, and non-sexual criminality. In addition, the current study did not identify significant differences between mixed offenders and child offenders, but a trend was uncovered for mixed offenders to have equally as high rates of sexual abuse history and sexual recidivism as child offenders and equally as high rates as peer offenders on non-sexual criminality. Thus, it would be useful to continue to explore the differences between mixed and child offenders.

Finally, future research is needed to examine how the classification scheme used in this study may improve the predictive ability of assessment tools. For example, a recent meta-analysis of 33 studies of JSOs found small effect sizes for the predictive ability of the most often used sexual risk assessment tools in juvenile offending (Viljoen et al., 2012). Moreover, the authors found that the predictive ability of these risk assessment tools produced an AUC of .64 to .67, and none of them outperformed the Static-99, a widely used risk measurement tool developed for adults. Based on these meta analytic findings, and the findings from the current study, it is possible that these measurements of risk differ in their predictability based on the victim age subgroup. For example, with peer offenders being at almost the same level of risk as delinquent, non-sexual offenders it may be that when they are excluded from the sample, the ability of these risk measurement tools is improved and more similar to the findings within the adult sexual offending literature. It is possible that due to the heterogeneity among JSOs the validity and utility of these risk measurement tools are obscured. Perhaps these measures will

have greater validity and utility for predicting outcomes for some subgroups of JSOs than others.

In sum, the results from the current study support that extending victim age classification to JSOs may create more homogenous and valid subgroups. Although replication is needed, this study calls for JSOs to be classified by whether or not they offended against a child; as defined as someone under 12-years of age and are at least 4 years younger than the victim. The current study addressed recidivism risk and, to some extent, causes of sexual offending (i.e., sexual abuse history), but it did not explore differences in response to treatment. Future research should examine treatment effects within the victim age classification framework, as it may clarify mixed findings within the juvenile sexual offending literature.

APPENDIX A

TABLES

Table 1: Bivariate Correlations for Variables

	1	2	3	4	5	6	7	8	9
1. Age of first referral	1								
2. Age of commitment	.28**	1	.						
3. Total commitments	-.34**	.10**	1						
4. Total adjudications	-.34**	.04	.50**	1					
5. Total sexual adjudications	.09**	-.14**	.23**	-.12**	1				
6. Non-sexual adjudications	-.34**	.05*	.52**	.99**	.25**	1			
7. Sexual abuse	.03	.11**	.12**	-.10**	.09**	-.11**	1		
8. Sexual recidivism	.02	-.04	-.05	-.04	.09**	-.05	.09**	1	
9. Non-sexual recidivism	-.18**	.02	.22**	.22**	-.16**	.24**	-.11**	.03	1

* p<. 05 **p<. 00

Table 2: Means and Standard Deviations for Severity of Criminality by Subgroups

	Total Sample	Delinquents	Child	Peer	Mixed
Age of first referral	12.51 (2.27) N=1536	12.33 $(2.30)_a$ N=988	13.02 $(2.06)_b$ N=368	12.35 $(2.50)_c$ N=150	12.5 $(2.27)_{a,b,c}$ N=30
Age of commitment	15.87 (1.34) N=1572	16.02 $(1.28)_a$ N=1020	15.52 $(1.34)_b$ N=372	15.83 $(1.49)_{a,b,c}$ N=150	15.5 $(1.36)_{a,b,c}$ N=30
Total commitments	1.88 (1.10) N=1557	2.13 $(1.16)_a$ N=1007	1.37 $(.73)_b$ N=371	1.55 $(.91)_b$ N=149	1.73 $(.87)_a$ N=30

Note: Means in the same row for the four subgroups that do not share subscripts differ at $p < .05$

Table 3: Means and Standard Deviations for Sexual Offense Details by Subgroups

	JSO	Child	Peer	Mixed
Age of first sexual adjudications	14.19 (1.61) N=552	14.23 $(1.48)_a$ N=372	14.11 $(1.86)_a$ N=130	14.13 $(1.83)_a$ N=30
Sexual offense adjudications	1.53 (1.15) N=547	1.47 $(.95)_a$ N=371	1.4 $(1.43)_a$ N=146	2.90 (1.01) N=30
Total number of victims	1.46 (1.18) N=541	1.37 $(.81)_a$ N=368	1.41 $(1.71)_a$ N=143	2.80 (1.06) N=30

Note: Means in the same row for the three subgroups that do not share subscripts differ at $p < .05$

Table 4: Means and Standard Deviations for JSOs with Multiple Adjudications

	JSO multiple adjudications	Child	Peer	Mixed
Age of first sexual adjudications	14.02 (1.63) N=171	14.15 (1.51)$_a$ N=107	13.53 (1.74)$_a$ N=34	14.13 (1.83)$_a$ N=30
Sexual offense adjudications	2.68 (1.51) N=171	2.62 (1.11)$_a$ N=107	2.71 (2.59)$_a$ N=34	2.9 (1.09)$_a$ N=30
Total number of victims	2.1 (1.64) N=167	1.9 (1.18) N=105	2.06 (2.83)$_a$ N=32	2.8 (1.86)$_a$ N=30

Note: Means in the same row for the three subgroups that do not share subscripts differ at $p < .05$

Table 5: Rates of Recidivism by Subgroups

	Total Sample N=1572	Delinquent N=1020	Child N=372	Peer N=150	Mixed N=30
Recidivism	71.4% (N=1123)	78.6% (N=802)	56.2% (N=209)	61.3% (N=92)	66.7% (N=20)
Sexual recidivism	4.2% (N=66)	2.5% (N=26)	8.6% (N=32)	2% (N=3)	16.7% (N=5)
Recidivists with only sexual re-offenses	1.0% (N=15)	.5% (N=5)	2.2% (N=8)	0% (N=0)	6.7% (N=2)
Non-sexual recidivism	70.5% (N=1108)	78.1% (N=797)	54% (N=201)	61.3% (N=92)	60% (N=18)
Juveniles with sexual & non-sexual recidivism	3.2% (N=51)	2.1% (N=21)	6.5% (N=24)	2% (N=3)	10% (N=3)
Recidivists with only non-sexual re-offenses	67.2% (N=1057)	76.08% (N=776)	47.58% (N=177)	59.33% (N=89)	50% (N=15)

Table 6: Means and Standard Deviations for Recidivism Details by Subgroup

	Total Sample	Delinquent	Child	Peer	Mixed
Age of admissions	15.87 (1.34) N=1572	16.02 (1.28) N=1020	15.52 (1.34) N=372	15.83 (1.50) N=150	15.50 (1.36) N=30
Years to re-offense	2.63 (1.83) N=1123	2.28 (1.62) N=802	3.44 (1.89) N=209	3.42 (2.07) N=92	4.55 (2.98) N=20
Age at re-offense	19.01 (1.89) N=1123	18.80 (1.72) N=802	19.37 (2.12) N=209	19.62 (2.04) N=92	20.80 (2.84) N=20
Years to sexual re-offense	4.68 (3.05) N=66	3.81 (2.55) N=26	4.72 (2.95) N=32	9.33 (2.89) N=3	6.20 (3.90) N=5
Age at sexual re-offense	20.74 (3.07) N=66	20.23 (2.44) N=26	20.47 (3.11) N=32	24.33 (3.21) N=3	23.00 (4.18) N=5
Years to non-sexual re-offense	2.63 (1.84) N=1108	2.27 (1.59) N=797	3.54 (2.02) N=201	3.42 (2.07) N=92	4.5 (2.98) N=18
Age at non-sexual re-offense	19.02 (1.89) N=1108	18.79 (1.70) N=797	19.51 (2.19) N=201	19.62 (2.04) N=92	20.78 (2.92) N=18

Note: Means in the same row for the three subgroups that do not share subscripts differ at $p < .05$

Table 7: Cox Regression for Sexual Recidivism – JSOs Compared to Delinquent

						95% CI for Exp (B)	
	B	Wald	df	Sig.	Exp(B)	Lower	Upper
Sexual adjudications	.03	.05	1	.82	1.03	.79	1.35
Sexual abuse	.41	1.91	1	.17	1.50	.84	2.70
JSOs	.84	5.77	1	.02	2.32	1.17	4.61

Table 8: Cox Regression for Sexual Recidivism - Subgroups Compared to Delinquent

						95% CI for Exp (B)	
	B	Wald	df	Sig.	Exp(B)	Lower	Upper
Sexual adjudications	-.08	.18	1	.67	.92	.64	1.33
Sexual abuse	.32	1.14	1	.29	1.38	.77	2.47
Child	1.20	9.60	1	.00	3.31	1.55	7.06
Peer	-.21	.10	1	.75	.81	.22	2.97
Mixed	1.86	6.54	1	.01	6.40	1.54	26.53

Table 9: Cox Regression for Sexual Recidivism - Subgroups Compared to Child

						95% CI for Exp (B)	
	B	Wald	df	Sig.	Exp(B)	Lower	Upper
Sexual adjudications	-.08	.18	1	.67	.92	.64	1.33
Sexual abuse	.32	1.14	1	.29	1.38	.77	2.47
Delinquent	-1.20	9.60	1	.00	.30	1.42	7.64
Peer	-1.41	5.40	1	.02	.35	.08	.80
Mixed	.66	1.45	1	.23	1.93	.66	5.66

Table 10: Cox Regression for Sexual Recidivism - Subgroups Compared to Peer

						95% CI for Exp (B)	
	B	Wald	df	Sig.	Exp(B)	Lower	Upper
Sexual adjudications	-.08	.18	1	.67	.92	.64	1.33
Sexual abuse	.32	1.14	1	.29	1.38	.77	2.47
Delinquent	.21	1.00	1	.73	1.23	.34	4.50
Child	1.41	5.40	1	.02	4.08	1.25	12.34
Mixed	2.06	6.93	1	.01	7.88	1.70	36.62

Table 11: Cox Regression for Sexual Recidivism - Subgroups Compared to Mixed

						95% CI for Exp (B)	
	B	Wald	df	Sig.	Exp(B)	Lower	Upper
Sexual adjudications	-.08	.18	1	.67	.92	.64	1.33
Sexual abuse	.32	1.14	1	.29	1.38	.77	2.47
Delinquent	-1.86	6.54	1	.01	.16	.04	.65
Child	-.66	1.45	1	.23	.52	.18	1.52
Peer	-2.07	6.93	1	.01	.12	.03	.59

Table 12: Cox Regression for Non-Sexual Recidivism – JSOs Compared to Delinquent

						95% CI for Exp (B)	
	B	Wald	df	Sig.	Exp(B)	Lower	Upper
Commitments	.15	23.11	1	.00	1.16	1.10	1.24
Adjudications	.01	5.82	1	.02	1.01	1.00	1.02
Age 1st referral	-.04	8.08	1	.01	.96	.93	.99
JSOs	-.65	83.52	1	.00	.52	.45	.60

Table 13: Cox Regression for Non-Sexual Recidivism - Subgroups Compared to Delinquent

						95% CI for Exp (B)	
	B	Wald	df	Sig.	Exp(B)	Lower	Upper
Commitments	.15	23.20	1	.00	1.16	1.10	1.24
Adjudications	.01	5.80	1	.02	1.01	1.00	1.02
Age 1st referral	-.04	7.86	1	.01	.96	.93	.99
Child	-.58	26.10	1	.00	.56	.45	.70
Peer	-.67	64.33	1	.00	.51	.43	.60
Mixed	-.79	10.81	1	.00	.46	.29	.73

Table 14: Cox Regression for Non-Sexual Recidivism - Subgroups Compared to Child

						95% CI for Exp (B)	
	B	Wald	df	Sig.	Exp(B)	Lower	Upper
Commitments	.15	23.20	1	.00	1.16	1.10	1.24
Adjudications	.01	5.80	1	.02	1.01	1.00	1.02
Age 1st referral	-.04	7.86	1	.01	.96	.93	.99
Delinquent	.67	64.33	1	.00	2.00	1.66	2.30
Peer	.10	.56	1	.46	1.10	.86	1.41
Mixed	-.12	.22	1	.64	.890	.55	1.45

Table 15: Cox Regression for Non-Sexual Recidivism - Subgroups Compared to Peer

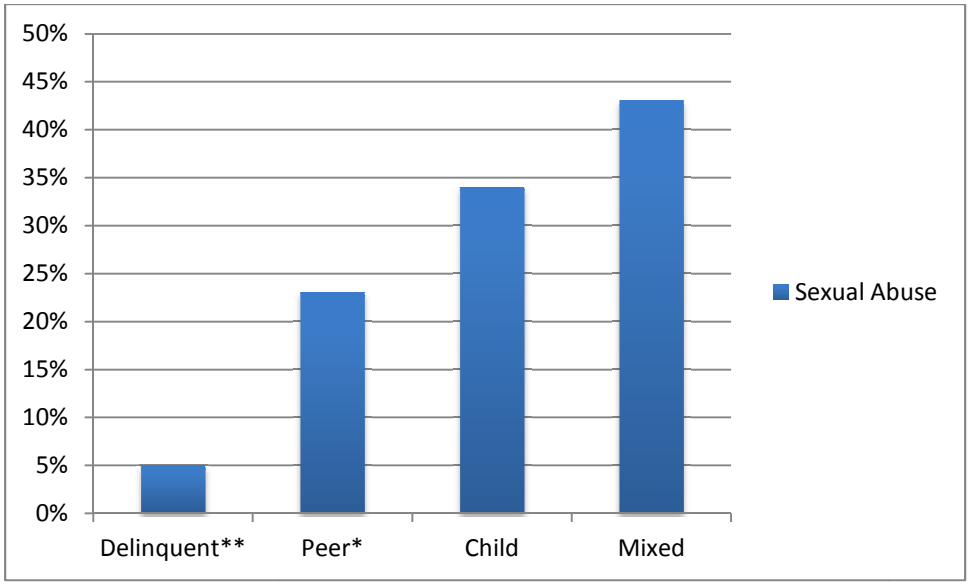
						95% CI for Exp (B)	
	B	Wald	df	Sig.	Exp(B)	Lower	Upper
Commitments	.15	23.20	1	.00	1.16	1.10	1.24
Adjudications	.01	5.80	1	.02	1.01	1.00	1.02
Age 1st referral	-.04	7.86	1	.01	.96	.93	.99
Delinquent	.58	26.10	1	.00	1.78	1.42	2.22
Child	-.10	.56	1	.46	.91	.71	1.12
Mixed	-.21	.67	1	.42	.81	.49	1.34

Table 16: Cox Regression for Non-Sexual Recidivism - Subgroups Compared to Mixed

						95% CI for Exp (B)	
	B	Wald	df	Sig.	Exp(B)	Lower	Upper
Commitments	.15	23.20	1	.00	1.16	1.10	1.24
Adjudications	.01	5.80	1	.02	1.01	1.00	1.02
Age 1st referral	-.04	7.86	1	.01	.96	.93	.99
Delinquent	.79	10.81	1	.00	2.12	1.37	3.51
Child	.12	.22	1	.64	1.12	.63	1.82
Peer	.21	.67	1	.42	1.24	.74	2.05

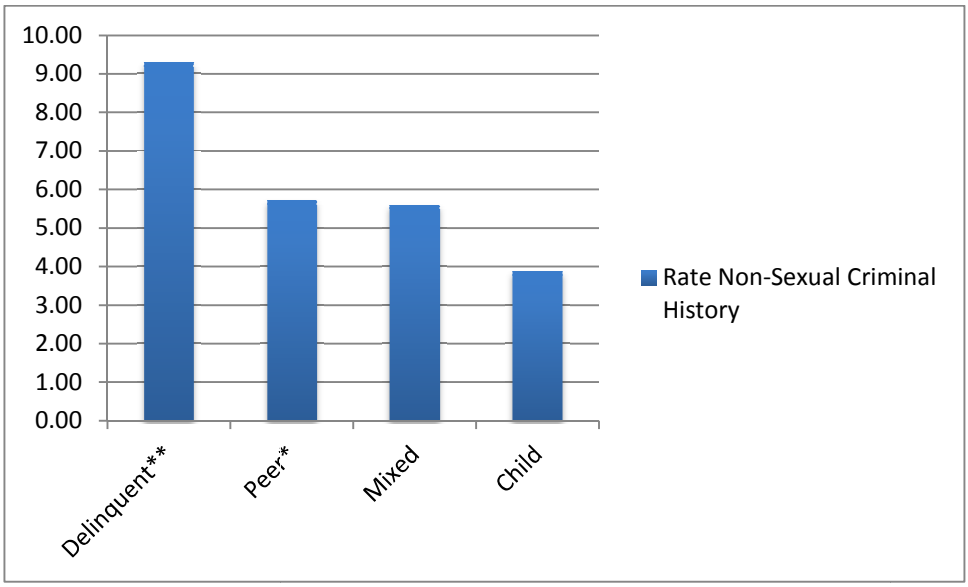
APPENDIX B

FIGURES



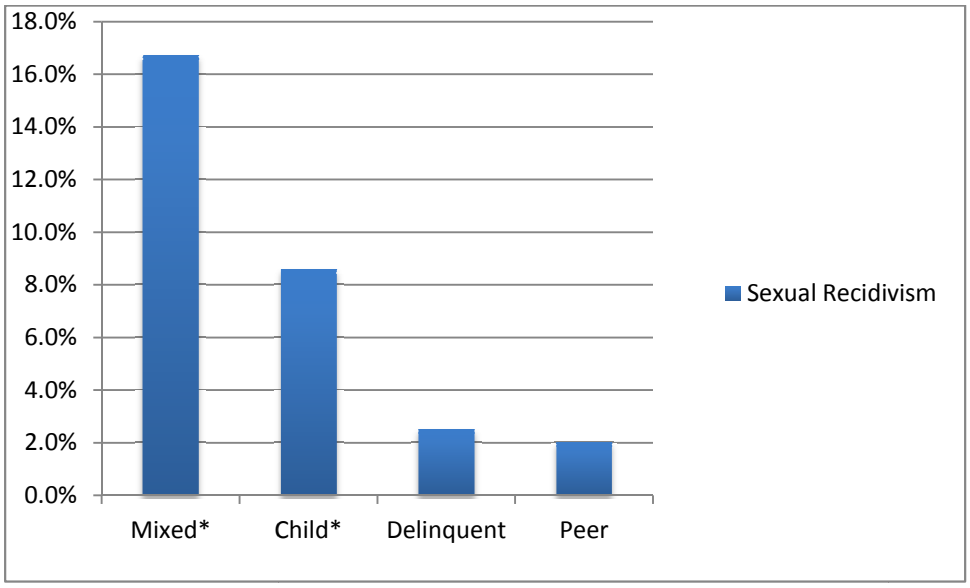
Note: Differs from all other subgroups at p<.00 * Differs from all other subgroups at p=.01

Figure 1: Rate of Sexual Abuse History by Subgroup



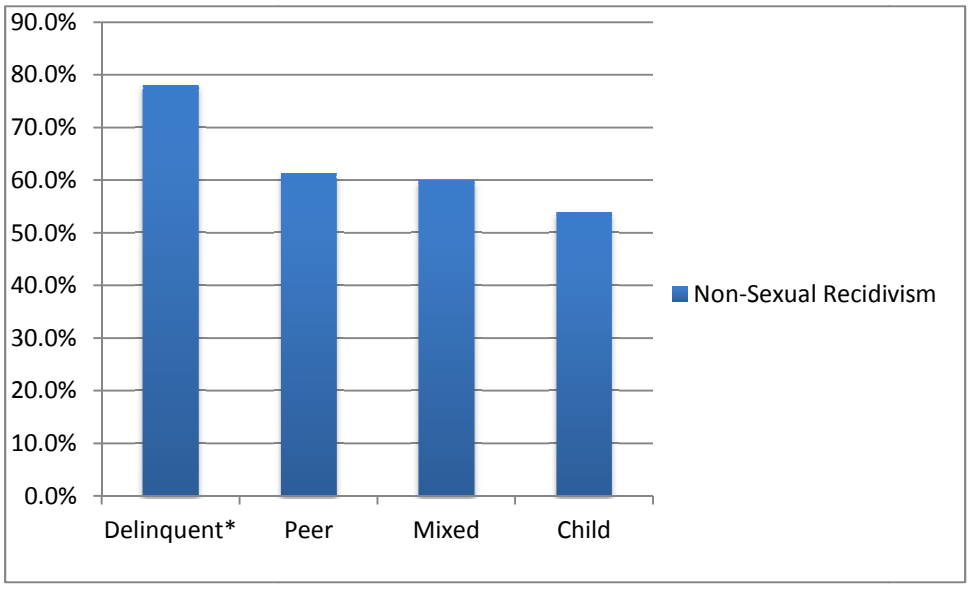
Note: Differs from all other subgroups at p<.00 * Differs from child subgroup at p<.00

Figure 2: Number of Non-Sexual Criminal History Adjudications by Subgroups



Note: Differs from delinquent and peer subgroups at p<.02

Figure 3: Rate of sexual recidivism by subgroup



Note: Differs from delinquent and peer subgroups at p<.00

Figure 4: Rate of non-sexual recidivism by subgroup

APPENDIX C

NON-SEXUAL OFFENSES WITH 5 OR MORE

RE-OFFENSE OCCURANCES

Battery	Possession of weapon
Larceny	Cocaine sale
Burglary	Hit and run
Resisting an Officer	Free or eluding police
Marijuana Possession	Escape
Non-moving traffic violation	Shoplifting
Trespassing	Stolen property – dealing in
Cocaine Possession	Weapon offense
Robbery	Disturbing the peace
Narcotics equipment possession	Loitering
Damage to property- criminal mischief	Carrying a concealed weapon
Vehicle theft	Disorderly conduct
Aggravated assault with a weapon	Homicide – willful kill- with weapon
Aggravated battery	Barbiturate possession
Drug possession	Fraud-insufficient funds
Traffic offense	Fraud
Probation violation	Failure to appear
Assault	Stolen property – dealing in
Dangerous drugs	Weapon offense

APPENDIX D

EXPLORATORY ANALYSES

Exploratory analyses were conducted with only the JSO subgroups (i.e., child, peer, and mixed subgroups) to determine possible alternatives to criteria used to form groups. Specifically, victim age and victim-offender age discrepancy were examined as a continuous measures through Cox regressions to examine the predictive ability and interaction between the continuous measures of victim age and victim-offender age discrepancy.

The measures of victim age and victim offender age discrepancy that were used in the main analyses of the study were re-calculated. First, continuous measures of victim age were calculated. Moreover, if the JSO only had one victim, that age was used as the continuous measure; if they had more than one victim, the mean victim age among all the victims was calculated. Secondly, continuous measures of victim-offender age discrepancy were calculated. This was calculated by taking the difference between the offender age and victim age (or mean victim age if the offender had multiple victims).

Cox regression analyses were utilized to examine the prediction of the continuous measures. In the prediction of sexual recidivism, there was not a good model fit on the basis of the control variables (i.e., sexual adjudications, presence of sexual abuse) ($\chi 2$ (2)=1.67, p= .44). Nor was there a good fit when victim age and victim-offender age discrepancy were added independently ($\chi 2$ (4)=3.96, p= .41). The model significantly improved when the interaction term (i.e., victim age * victim-offender age discrepancy) was introduced $\chi 2$ (1)=9.80, *p*= .002), but the model still did not significantly predict sexual recidivism $\chi 2$ (5)=4.10, *p*= .54).

In the prediction of non-sexual recidivism, there was a good model fit on the basis of the control variables (i.e., total number of adjudication, commitments, age of first offense) ($\chi 2$

(4)=49.26, p= .00). However, there was not significant improvement when victim age and victim-offender age discrepancy were added independently ($\chi 2$ (2)=. 26, p= .88), nor was there a significant improvement when the interaction term was added ($\chi 2$ (1)=1.57, *p*= .21). *

Receiver Operating Curves. ROCs were also utilized to examine the overall classification accuracy, as well as the sensitivity and specificity at various cut off scores, for the continuous measures of victim age and victim-offender age discrepancy. The classification accuracy (i.e., Area Under Curve) for sexual recidivism predicted by age of victim was poor (AUC=. 58; p=. 112; 95% CI= .50-.65) as was the AUC for victim-offender age discrepancy (AUC=. 47; p=. 25; 95% CI= .37-.52). Values closer to 1 for the AUC indicate that the classification approach (e.g., age of victim or victim-offender age discrepancy) reliably distinguishes recidivism for offenders, whereas a value of .50 would indicate the predictor is not better than chance.

Theoretically the perfect predictor would produce 100% for sensitivity and specificity, however because sensitivity and specificity are negatively correlated (i.e., as sensitivity increases, specificity decreases), a range of scores is provided from the ROC analysis to determine the optimal cut point. The optimal cut-off in ROC depends on what purpose the model will serve. For example, in the prediction of recidivism it is imperative to identify offenders at the highest risk to re-offend, so high sensitivity is prioritized over specificity.

For non-sexual recidivism, the Area Under Curves also demonstrated poor accuracy. Victim age was not significant (.47; p=. 22; 95% CI= .42-.52); however, the victim-offender age discrepancy was significant, but still only minimally above chance (.56; p=. 02; 95% CI= .51-.61).

* * A Cox regression analysis was conducted to examine the predictive ability of the subgroups if the delinquent subgroup was removed. The findings are still significant in the analysis for sexual recidivism (n=552; X2 (4)=10.18; p=.037) and non-sexual recidivism (n=552; X2 (5)=52.05; p=00).

APPENDIX E

SURVIVAL CURVES

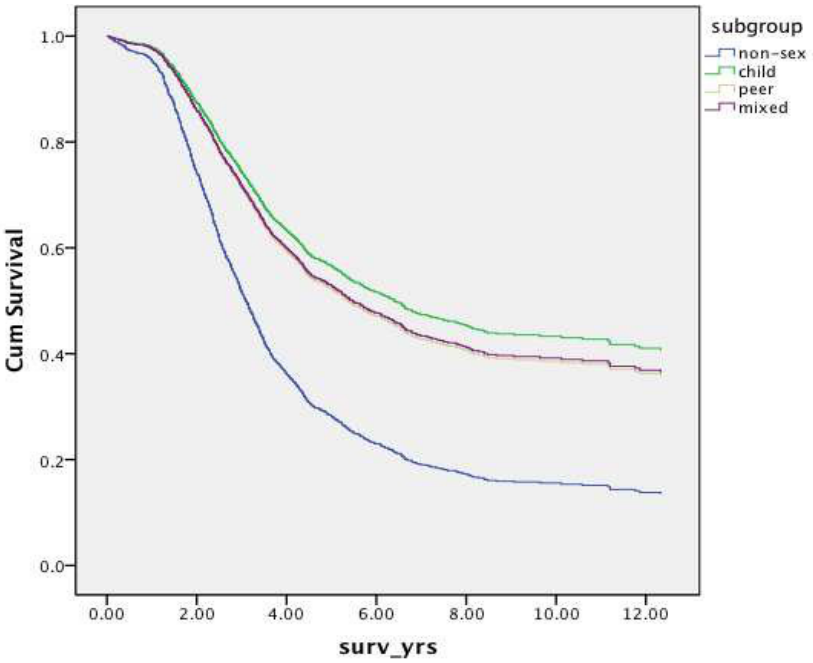


Figure 5: Recidivism Survival Curve

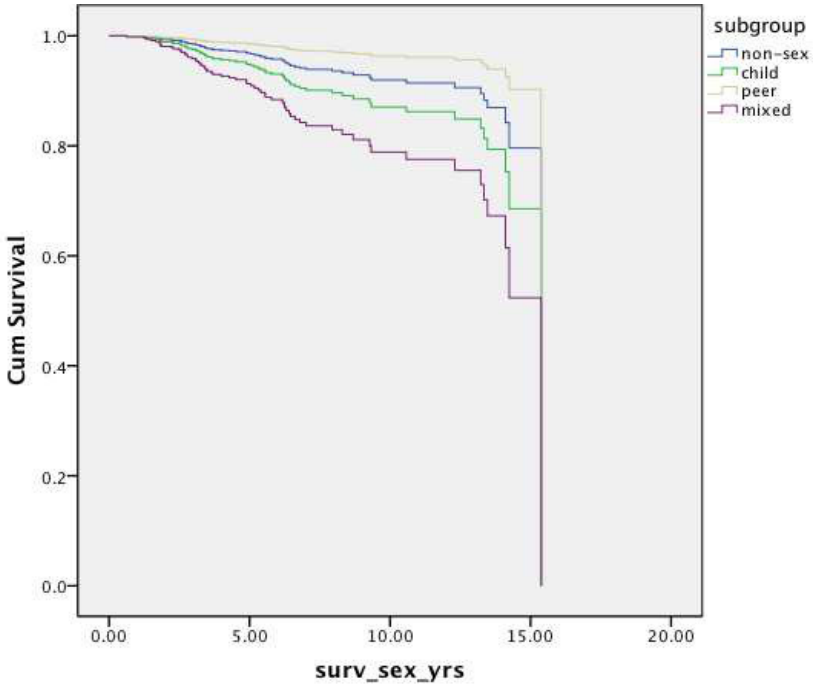


Figure 6: Sexual Recidivism Survival Curve

REFERENCES

Aylwin, A. S., Clelland, S. R., Kirkby, L., Reddon, J. R., Studer, L. H., & Johnston, J. (2000). Sexual offense severity and victim gender preference: a comparison of adolescent and adult sex offenders. *International Journal of Law and Psychiatry*, 23, 113–124.

Alywin, A., Studer, L., Reddon, J., & Clelland, S. (2003). Abuse prevalence and victim gender among adult and adolescent child molesters. *International Journal of Law and Psychiatry,* 26, 179-190.

Burton, D. L. (2003). The relationship between the sexual victimization of and the subsequent sexual abuse by male adolescents. *Child and Adolescent Social Work Journal,* 20, 277–296.

Caldwell, M. F. (2010). Study characteristics and recidivism base rates in juvenile sex offender recidivism. International Journal of Offender Therapy and Comparative Criminology, 54, 197 – 212.

Cox, D.R. & Oakes, D. (1984) *Analysis of Survival Data*. London: Chapman and Hall

Dicataldo, F. (2009). The perversion of youth: Controversies in the assessment and treatment of juvenile sex offenders. New York, NY: New York University Press.

Finkelhor, D.(2009). The Prevention of Childhood Sexual Abuse. *The Future of Children, 19*(2): 169-194.

Ford, M. & Linney, J. (1995). Comparative Analysis of juvenile sexual offenders, violent nonsexual offenders, and status offenders. *Journal of Interpersonal Violence*, 10, 56-70.

Fortune, C., & Lambie, I. (2006). Sexually abusive youth: A review of recidivism studies and methodological issues for future research. *Clinical Psychology Review*, 26, 1078–1095.

Gerhold, C. K., Browne, K. D., & Beckett, R. (2007). Predicting recidivism in adolescent sexual offenders. *Aggression and Violent Behavior*, 12, 427–438.

Gunby, C. & Woodhams, J. (2009). Sexually deviant juveniles: comparisons between the offender and offence characteristics of 'child abusers' and 'peer abusers'. *Psychology, Crime & Law* Vol. 16, Nos. 1_2, January_February 2010, 47_64

Hanson, R. & Bussieree, M. (1998). Predicting relapse: A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology*, 66, 348-362.

Hanson, R. K. & Morton-Bourgon, K. E. (2005). The characteristics of persistent sexual offenders: A meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology,* 73, 1154-1163.

Harris, D. A., Knight, R. A., Smallbone, S., & Dennison, S. (2011). Postrelease specialization and versatility in sexual offenders referred for civil commitment. *Sexual Abuse: Journal of Research and Treatment, 23*(2), 243-259.

Heilbrun, K., Lee, R., & Cottle, C. (2005). Risk factors and intervention outcomes: Meta-analyses of juvenile offending. In K. Heilbrun, N. E. Goldstein, & R. Redding (Eds.), *Juvenile delinquency: Prevention, assessment and intervention* (pp. 111 – 133). Oxford, UK: Oxford University Press.

Hunter, J. (1999). Understanding juvenile sexual offending behavior: Emerging research, treatment approaches, and management practices. Washington, DC: Center for Sex Offender Management.

Hunter, J., Figueredo, A., Malamuth, N., & Becker, J. (2003). Juvenile sex offenders: Toward the development of a typology. Sexual Abuse: *A Journal of Research and Treatment,* 15, 27-48.

Hunter, J.A., Goodwin, D.W.D. & Becker, J.V.J. (1994) The relationship between phallometrically measured deviant sexual arousal and clinical characteristics in juvenile sexual offenders. *Behaviour Research and Therapy, 32*(5), 533-533-538.

Jespersen, A. F., Lalumie`re, M. L., & Seto, M. C. (2009). Sexual abuse history among adult sex offenders and non-sex offenders: A meta analysis. *Child Abuse & Neglect: The International Journal*, 33, 179–192.

Johnson, G. M., & Knight, R. A. (2000). Developmental antecedents of sexual coercion in juvenile sexual offenders. *Sexual Abuse: Journal of Research and Treatment, 12*(3), 165-178.

Kahn, T. & Chambers, H. (1991). Assessing re-offense risk with juvenile sexual offenders. *Child Welfare,* 70, 333-345.

Kemper, T.K. (2006). Juvenile sexual offenders: comparison of victim age based subgroups and prediction of treatment outcome and recidivism. Unpublished Dissertation. Florida State University

Kemper, T. S. & Kistner, J. A. (2007). Offense History and Recidivism in Three Victim-Age-Based Groups of Juvenile Sex Offenders. *Sexual Abuse: A Journal of Research & Treatment, 19*, 409 – 424.

Kemper, T. S. & Kistner, J. A. (2010). An evaluation of classification criteria for juvenile sex offenders. *Sexual Abuse: A Journal of Research and Treatment, 22*, 172-190.

Kemper, T. S. & Oneal, B. J. (2011). Examining risk of youth who sexually offend. In M. Calder (Eds.), *Young People who Sexually Abuse: Evidence-Based Developments*. Russell House Publishing, U.K.

Knight, R. A., Ronis, S. T., & Zakireh, B.. "Bootstrapping persistence risk indicators for juveniles who sexually offend." *Behavioral Sciences and the Law* 27. (2009): 878-909

Kraemer, B., Salisbury, S., & Spielman, C. (1998). Pretreatment variables associated with treatment failure in a residential juvenile sex-offender program. *Criminal Justice and Behavior,* 25, 190-202.

Lee, J., Jackson, H., Pattison, P., & Ward, T. (2002). Developmental risk factors for sexual offending. *Child Abuse & Neglect,* 26, 73–92.

Lussier, P., LeBlanc, M., & Proulx, J. (2005). The generality of criminal behavior: A confirmatory factor analysis of the criminal activity of sex offenders in adulthood. *Journal of Criminal Justice,* 33, 177–189.

McCann, K., & Lussier, P. (2008). Antisociality, sexual deviance, and sexual reoffending in juvenile sex offenders. *Youth Violence and Juvenile Justice,* 6, 363–385.

Mann, R. E., Hanson, R. K., & Thornton, D. (2010). Assessing risk for sexual recidivism: Some proposals on the nature of psychologically meaningful variables. *Sexual Abuse: A Journal of Research and Treatment, 22*, 191 – 217.

Marshall, W. L., & Barbaree, H. E. (1990). An integrated theory of the etiology of sexual offending. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Eds.), Handbook of sexual assault: Issues, theories and treatment of the offender (pp. 257-275). New York: Plenum.

Parent, A., Teilmann, G., Juul, A., Skakkebaek, N. E., Toppari, J., & Bourguignon, J. (2003).The timing of normal puberty and the age limits of sexual precocity: Variations around the world, secular trends, and changes after migration. Endocrine Reviews, 24, 668-693.

Parent, G., Guay, J. P., & Knight, R. A.. "An assessment of long-term risk of recidivism by adult sex offenders: One size doesn't fit all." *Criminal Justice and Behavior* 38. (2011): 188-209.

Pallant, J. (2010). SPSS Survival Manual, 4th Edition. Open University Press. Birkshire, England.

Parks, G. A., & Bard, D. E. (2006). Risk factors for adolescent sex offender recidivism: Evaluation of predictive factors and comparison of three groups based upon victim type. *Sexual Abuse: Journal of Research and Treatment, 18*(4), 319-342.

Prentky, Robert A., Gabriel, A. M., & Coward, A. I. (2011). *Treatment for perpetrators of sexual violence*. Washington, DC, US: American Psychological Association.

Prentky, R. A., & Knight, R. A. (1991). Identifying critical dimensions for discriminating among rapists. *Journal of Consulting and Clinical Psychology, 59*(5), 643-661.

Reitzel, L. R., & Carbonell, J. L. (2006). The effectiveness of sexual offender treatment for juveniles as measured by recidivism: A meta-analysis. *Sexual Abuse: Journal of Research and Treatment, 18*(4), 401-421. Rich, P. (2006). Attachment and sexual offending. West Sussex, UK: Wiley.

Seto, M.C. & Lalumiere, M. (2010). What Is So Special About Male Adolescent Sexual Offending? A Review and Test of Explanations Through Meta-Analysis. *Psychological Bulletin.* Vol. 136, No. 4, 526–575

Stinson, J. D., Sales, B. D., & Becker, J. V. (2008). Social learning theories. (pp. 77-91). Washington, DC, US: American Psychological Association, Washington, DC.

U.S. Department of Justice (2008) The National Guidelines for Sex Offender Registration and Notification - Final Guidelines, July 2000

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics (5th ed.)*. Boston, MA: Allyn & Bacon/Pearson Education, Boston, MA.

Vandiver, D. M. (2006). A prospective analysis of juvenile male sex offenders. Characteristics and recidivism rates as adults. *Journal of Interpersonal Violence, 21*, 673-688.

Viljoen, J. L., Mordell, S., & Beneteau, J. L. (2012). Prediction of adolescent sexual reoffending: A meta-analysis of the J-SOAP-II, ERASOR, J-SORRAT-II, and static-99. *Law and Human Behavior, 36*(5), 423-438.

Whitaker, D. J., Le, B., Hanson, R. K., Baker, C. K., McMahon, P., Ryan, G., Rice, D. D. (2008). Risk factors for the perpetration of child sexual abuse: A review and meta-analysis. *Child Abuse & Neglect,* 32, 529-548.

Worling, J., & Langstrom, N. (2006). Risk of sexual recidivism in adolescents who offend sexually: Correlate and assessment. In H. Barbaree, & W. Marshall (Eds.), The juvenile sex offender (pp. 219–247). New York: Guilford.

Worling, J. (1995). Sexual abuse histories of adolescent male sex offenders: Differences on the basis of the age and gender of their victims. *Journal of Abnormal Psychology*, 104, 610-613.

Worling, J.R., Littlejohn, A., & Bookalam, D. (2010). 20-year prospective follow-up study of specialized treatment for adolescents who offended sexually. *Behavioral Sciences and the Law, 28*, 46-57.

Wright, R. (2000) Survival Analysis. In L.G. Grim & P. R. Yarnold (Eds.) *Reading and Understanding More Multivariate Statistics* (pp. 363-407). Washington, D.C.: American Psychological Association.

BIOGRAPHICAL SKETCH

EDUCATION

Ph.D. Candidate, Clinical Psychology, Florida State University, Tallahassee, FL
Major Professor: Janet Kistner, Ph.D.
Title of Dissertation: Classification of Juvenile Sexual Offenders by Victim Age Based Subgroups*

M.S., Clinical Psychology, December 2009, Florida State University, Tallahassee, FL
Major Professor: Janet Kistner, Ph.D.
Title of Thesis: The Validity of the APS-SF with Youth Committed to a Residential Facility

B.S., Psychology (Minor: Communications),
August 2007, Florida State University, Tallahassee, FL
President's and Dean's List, Honors in the Major.
Title of Thesis: The Validity of the CDISC-IV with Youth Committed to State Residential Facilities

CLINICAL EXPERIENCE

Pre-Doctoral Intern*, Northeast Florida State Hospital (NEFSH),* Macclenny, FL
August 2012 – present
Supervisors: Henry Benson, Ph.D., Darah Granger, Psy.D.
Activities: Conduct forensic assessment and psychotherapy of adult inpatient clients, including competency and conditional release assessments and treatment. Develop and implement individualized and group treatment plans. Selected to serve in a minor rotation with the hospital administration team, which includes the NEFSH Long Range and Strategic Planning Committee, as well as special assignments directed by the Hospital Administrator.

Psychological Trainee, *Community Behavioral Health Services*, Macclenny, FL
August 2011- April 2012
Supervisor: Tonia James, Director, LMHC, NCC, CAP
Activities: Performed outpatient-based psychotherapy and assessments of civil and court mandated adult clients diagnosed with a wide range of severe and persistent psychiatric disorders. Developed and implemented treatment plans, conducted risk assessments, and partnered with a comprehensive community treatment team including a psychiatrist, case worker, and rehabilitation specialists.

Psychological Trainee, Florida State University Psychology Clinic, Tallahassee, FL
August 2008 - March 2010
Supervisors: Thomas Joiner, Ph.D., Natalie Sachs-Ericson, Ph.D., N. Brad Schmidt, Ph.D.
Activities: Conducted outpatient-based psychotherapy and assessments of adult, adolescent, and child clients with a variety of psychotic, mood, anxiety, disruptive behavior, and personality

disorders. Developed and implemented individualized and group treatment plans. Maintained progress notes, generated intake reports and termination summaries. Conducted psychological evaluations and treatment with court-mandated clients. Interacted with all aspects of the mental health community, including emergency staff, probation officers and legal community.

Psychological Trainee, Arthur G. Dozier School for Boys (High Security Detention Facility) Specialized Treatment Program, State of Florida Department of Juvenile Justice, Marianna, FL
August 2008 - August 2009
Supervisor: Therese S. Kemper, Ph.D.
Activities: Addressed the therapeutic needs of 12-19 year-old males with histories of severe criminal activity remanded to a high security juvenile justice facility. Facilitated individual and group psychotherapy sessions to address criminal thinking, sexual offending, anger control, relapse prevention, substance abuse, and other relevant issues. Conducted comprehensive psychological assessments, as well as emergency risk assessments and crisis intervention. Attended two-day training in Motivational Interviewing.

RESEARCH AND PROFESSIONAL EXPERIENCE

Fellow, *Predoctoral Interdisciplinary Research Training, Florida Center for Reading Research,* Florida State University, Tallahassee, FL
August 2009 - August 2010
Duties/Activities: Participated in a highly competitive training program that emphasized rigorous research training. Presented at the annual Institute of Educational Sciences Conference in Washington, D.C. on predictors of academic gains among incarcerated youth. Implemented research techniques to advance the field of educational research within juvenile justice settings.

Supervisor, *Undergraduate Research Assistants (Kistner Lab),* Florida State University, Tallahassee, FL
January 2008 - August 2009
Duties/Activities: Coordinated the collection and entry of data by undergraduate students. Led meetings and presented on topics such as assessment in juvenile justice and recidivism risk prediction for sexual and non-sexual offenders.

Graduate Student Researcher, *Arthur G. Dozier School for Boys,* Marianna, FL
May 2007 - August 2009
Duties/Activities: Prepared on-going development and implementation of research protocols at a high-security juvenile justice facility. Collaborated in selection of measures and variables, and developed coding procedures. Reviewed files of previous residents for data collection. Developed and maintained the Microsoft Access database, and trained undergraduate student coders.

Research Assistant, *Florida State University (Kistner Lab),* Tallahassee, FL
August 2007 - August 2009
Duties/Activities: Coordinated and managed reviewer submissions to the Journal of Clinical Child and Adolescent Psychology, and handled individual assignments from the Associate Editor.

PUBLICATIONS

Kistner, J.A., Counts-Allan, C., Dunkel, S., **Drew, C.H**., David-Ferdon, C., Lopez, C. (2010). Sex Differences in Relational and Overt Aggression in the Late Elementary School Years, *Journal of Aggressive Behavior,* 36, 282-291.

MANUSCRIPTS IN PREPARATION

Skubic-Kemper, T., O'Leary, M., Dunkel, S., **Drew, C.H**. Criminal Specialization of Juvenile Offenders.

Drew, C. H., Kistner, J.A., Skubic-Kemper, T. The Impact of Academic Achievement on the Relationship Between Juvenile Delinquency & Recidivism.

Skubic-Kemper, T., O'Neal, B.J., **Drew, C.H**. Psychometric Properties of the Treatment Progress Inventory for Adolescents Who Sexually Abuse in an Incarcerated Sample.

PROFESSIONAL PRESENTATIONS

Drew, C.H., Kistner, J.A. (June 2010). *Predictors of Academic Gains Among Incarcerated Youth*. Poster presented at the 5th Annual Conference of the Institute of Education Sciences, National Harbor, MD.

Drew, C.H., Kistner, J.A. (November 2009). *The Validity of the APS-SF with Youth Committed to Residential Facilities.* Poster presented at the 43rd Annual Conference of the Association of Behavioral and Cognitive Therapies (ABCT), New York, NY.

Skubic-Kemper, T.S., O'Neal, B.J., **Drew, C.H.** (September 2009). *Psychometric Properties of the TPI-ASA in a Sample of Adjudicated Adolescents*. Poster presented at the 28th Annual Conference of the Association for the Treatment of Sexual Abusers (ATSA), Dallas, TX.

Drew, C.H., Kistner, J.A. (April 2009). *The Validity of the APS-SF with Youth Committed to Residential Facilities.* Poster presented at the 7th annual Department of Psychology Graduate Research Day, Tallahassee, FL.

Skubic-Kemper, T., O'Leary, M., Dunkel, S., **Drew, C.H.,** Safra, C. (October 2008). *Offense Specialization in Juvenile Sexual and Nonsexual Offenders.* Poster presented at the 27th Annual Conference of the Association for the Treatment of Sexual Abusers (ATSA), Atlanta, GA.

Drew, C.H., Kistner, J.A., Loney, B. (March 2008). *The Validity of the Computerized Diagnostic Interview Schedule with Youth Committed to State Residential Facilities*. Poster presented at the American Psychology and Law Annual Convention (APLS), Jacksonville, FL.

HONORS, ACTIVITIES & AWARDS

Legislative Affairs and Public Policy Board, Florida Psychological Association;
January 2013 – current

Board of Directors, Northeast Florida Healthy Start Coalition;
February 2012 - current

Ad hoc manuscript reviewer, *Journal of Clinical Child and Adolescent Psychology;*
Fall of 2007, Spring of 2011, & Spring 2012

The Institute of Educational Sciences PIRT Fellowship
Fall of 2009 – Summer of 2010

Florida State University Congress of Graduate Students Conference Presentation Grant;
43rd annual conference of the Association for Behavioral and Cognitive Therapies; New York, NY; Fall 2009